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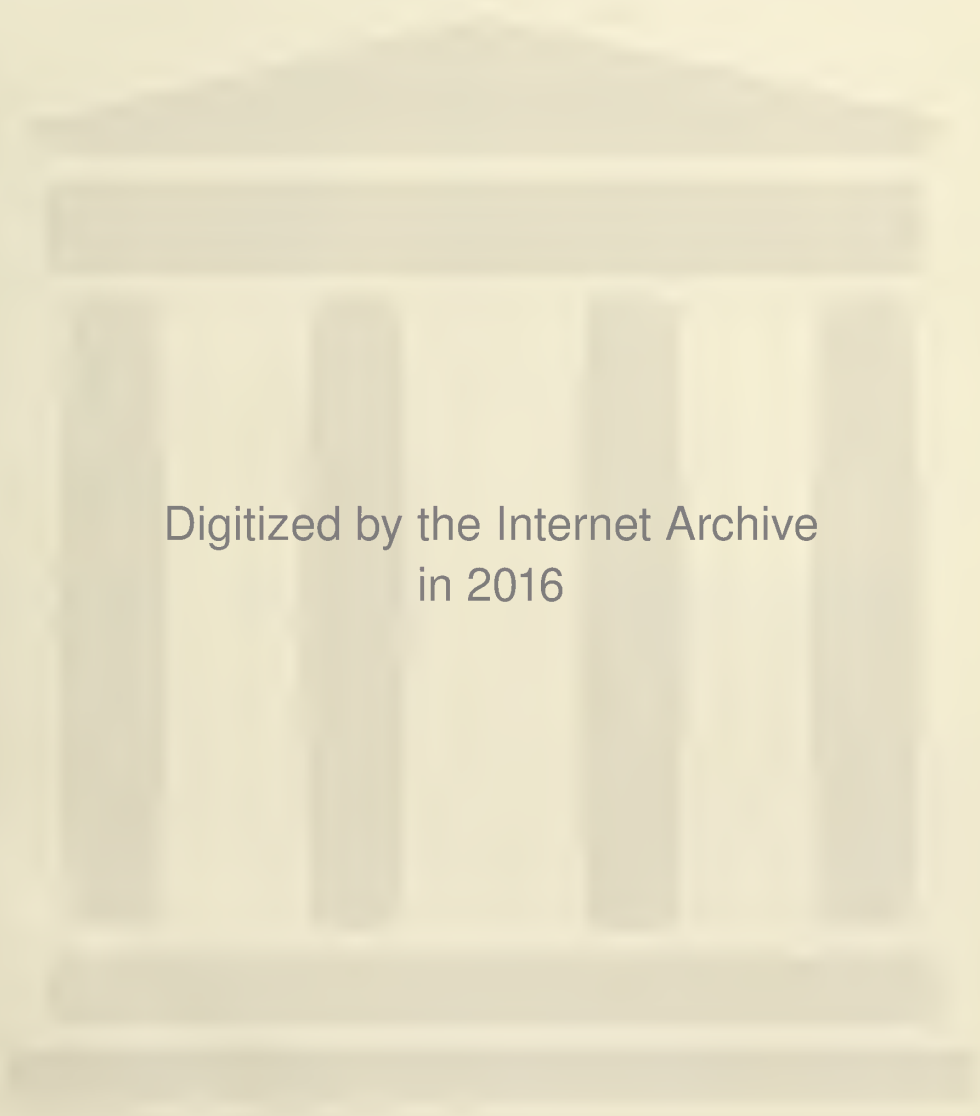
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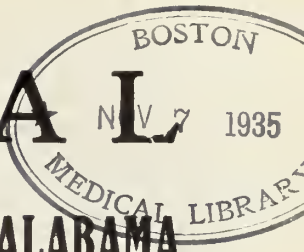




# THE JOURNAL

of

## THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA



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## Loose Stools in Infants

require extra diapering, and inconvenience the mother

Clinically, loose stools are accompanied by a dehydration which, when excessive or long continued, interferes with the baby's normal gain. A long-continued depletion of water is serious, since "the fluid requirements of an infant are tremendous. A normal infant 15 pounds in weight will frequently excrete as much as one litre of urine per day. A negative water balance for more than a very short period is incompatible with life." (Brown and Tisdall)

Moreover, when the condition is superimposed by chance infection, the delicate balance may be seriously upset, since the infant's reserves have already been drawn upon, so that resistance to infection and dangerous forms of diarrhea may be too low for safety. Every physician dreads diarrhea, which Holt and McIntosh call "the commonest ailment of infants in the summer months."

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# THE JOURNAL

OF

## The Medical Association of The State of Alabama

Published Under the Auspices of the Board of Censors

Vol. 5, No. 1

Montgomery, Alabama

July 1935

### INFECTIONS OF THE HAND\*

By  
JOHN L. BRANCH, M. D.  
Montgomery, Ala.

Anatomically, the hand is a complex region. Likewise, it is probably the most used and less thought of portion of the entire body. Injuries to or infections of the hands cause the loss of a large amount of time from gainful occupation and are associated with much pain and discomfort, both to the individual directly concerned and to the employer, who may be indirectly involved. When deformity and loss of function are the consequence, crippling is the unfortunate result.

All infections of the hand are potentially serious and deserve close study and attention. Properly treated, most of them will yield rather rapidly but, due to the anatomic arrangement, the treatment must be exact and accurate to secure this result.

Time will not permit a consideration of all types of infections. This discussion, therefore, will be limited to the palmar space and its related regions.

#### ANATOMY OF PALMAR FASCIA

The palmar fascia is the continuation downward of the palmaris longus tendon. It consists of a thick triangular middle portion and two thin lateral portions, the latter covering the thenar and hypothenar eminences. The triangular middle portion can be divided into two layers. Its under layer is composed of transverse fibers which blend with the anterior annular ligament. Its upper layer is composed of longitudinal fibers, being the continuation of the palmaris longus. When this layer reaches the middle of the palm, it divides into four slips

which blend with the sheaths of the flexor tendons and lateral ligaments of the metacarpophalangeal joints to insert into the sides of the base of the proximal phalanges and which aid in flexing them.

The digital arteries and nerves lie between these slips on their way to the webs of the fingers. The superficial surface is intimately adherent to the skin above, especially at the webs of the fingers where its fibers form the superficial transverse ligament. The intimate attachment between the skin above and the fascia beneath binds these two structures so closely and firmly together that pus cannot travel for any distance between them. It either burrows deeper, perforates the skin, or collects beneath the epidermis, forming a bleb. The lateral portions, covering the thenar and hypothenar eminences, are thin and are prolonged beneath the long flexor tendons to become attached to the third and fifth metacarpal bones.

#### ABSCESS BENEATH THE PALMAR FASCIA

As a result of infected wounds pus may accumulate beneath the palmar fascia. The construction of this fascia limits the spread of the pus in some directions and favors it in others. Pus originating beneath the thick triangular portion will tend to point at either side, and it may show on the inner side at the hypothenar eminence or work toward the outer side and point in the web of the thumb. It may take an upward course and pass under the annular ligament to point on the anterior surface of the forearm above the wrist. If it tends downward it escapes through the opening for the exit of the digital vessels and nerves and shows in the webs of the fingers. If it extends still further, it burrows between the distal extremities of the metacarpals and shows on the back of the hand. Sometimes

\*Presented to the Association in annual session, Mobile, April 18, 1935.

# THE TREATMENT OF SEVERE PREECLAMPSIA AND ECLAMPSIA\*

WITH SPECIAL REFERENCE TO THE USE OF EPHEDRINE

By

WM. B. MCGEE, B. S., M. D.  
New Orleans

In spite of greatly improved obstetric education and prenatal care, there are still 4,000 maternal deaths every year in this country as a result of the toxemias of pregnancy. Preeclampsia is not always preventable, even with the best prenatal care, but the incidence of eclampsia can be greatly reduced. The dividing line between severe preeclampsia and eclampsia is very fine, as is proven by the typical findings of eclampsia at autopsy in cases of severe preeclampsia in which there had been neither convulsions nor coma.

## ETIOLOGY

Of the many theories regarding the etiology of eclampsia, probably the most popular today is that propounded by Zangemeister: that there is a disturbance in the water balance of the body with a retention of sodium chloride and water. Undoubtedly faulty diet has some bearing on this disease. Recently an increase of the hormone from the posterior pituitary gland has been reported by investigators.

## SYMPTOMS AND SIGNS

The most common symptoms of preeclampsia are epigastric pain, headache, dizziness, spots and flashes before the eyes, dimness of vision, lassitude, muscular twitching, cramps, nausea and vomiting.

The most important signs are decreased urinary output, rapid gain in weight, edema of hands and face; a diastolic blood pressure of 100 or more, jaundice; and albumin, red blood cells and casts in the urine.

## DIFFERENTIAL DIAGNOSIS

The differential diagnosis is usually simple, but epilepsy, hysteria, brain tumor, chemical poisonings, meningitis, acute and

chronic nephritis with uremia, gumma of the brain, malignant hypertension, pyelitis, cerebral thrombosis, apoplexy and diabetic coma must all be considered and ruled out.

## PATHOLOGY

The pathologic changes noted are, briefly:

1. *Kidneys*: Edema of glomerular loops, albuminous degeneration of the convoluted tubules, degenerative changes in the arterioles, thrombosis of the capillaries in the glomeruli and hemoglobin cylinders.

2. *Liver*: Peripheral necrosis of the liver lobules, fatty degeneration, cloudy swelling and small hemorrhages.

3. *Brain*: Edema and flattening of the convolutions.

4. *Lungs*: Congestion and pulmonary edema.

5. *Heart*: Fatty degeneration, small hemorrhages with thrombi and necrosis.

6. *Blood Vessels*: Capillary spasms in the arterioles.

7. *Blood*: A concentration, an increase in uric acid, a lowered CO<sub>2</sub> combining power, and a lowered pH.

## PROGNOSIS

The prognosis becomes grave with one or more of the following conditions: oliguria or anuria, low blood pressure, twenty or more convulsions, pulmonary edema, no edema of face or hands, temperature of 104° or more, pulse 120 or more, cyanosis and jaundice.

The maternal mortality varies from 10 per cent in well organized maternity hospitals to 30 per cent in general hospitals, with an average of 20 per cent. The fetal mortality varies from 40 to 60 per cent.

## TREATMENT

I. *Mild Preeclampsia*: The symptoms are: gain of more than one pound a week in the last trimester of pregnancy, a diastolic blood pressure over 90 mm., a urinary output of less than 1,500 cc. in 24 hours, edema of the feet, and a slight trace of albumin in the urine.

Treatment: The patient should be put on a salt free, regular diet.

II. *Moderate Preeclampsia*: The symptoms are one or more of the following: excessive gain in weight, a diastolic pressure of more than 100 mm., a urinary output of

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\*Presented to the Association in annual session, Mobile, April 17, 1935.



less than 1,000 cc. per day, more than a trace of albumin in the urine, and edema of the hands and face.

Treatment: Bed rest, one ounce of magnesium sulphate orally, a careful measure of intake and output, restriction of fluids to 1,500 cc. a day if edema is present, daily blood pressure determinations and urine examinations, as well as a *preeclamptic diet*, which is as follows:

- (a) No salted foods, either in cooking or at table.
- (b) Very small amounts of meat, eggs, fish, cheese, oysters, oatmeal, prunes, cranberries, plums, and any fatty or greasy foods.
- (c) Eat only well-cooked fresh vegetables. No canned vegetables allowed.
- (d) Drink no more than 3 glasses of sweet milk or buttermilk a day.
- (e) Use sweet butter (salt free).
- (f) Three slices of whole wheat bread a day.
- (g) May have fruit and fruit juices, apples, melons, oranges, lemons, potatoes, beans, grits, rice, lima beans, beets, carrots, peas, cauliflower, lettuce, celery, raisins, chestnuts and candy.
- (h) Desserts: May have tapioca and cakes made without salt and eggs; cornstarch pudding, gelatine and fruit ices.

III. *Severe Preeclampsia*: The symptoms are one or more of the following: generalized edema, elevation of the diastolic blood pressure over 110 mm., marked increase in weight, oliguria or anuria; more than a heavy trace of albumin in the urine, with red blood cells and casts, epigastric pain, headache and dizziness, eye symptoms or lassitude.

Treatment: Hospitalization, if possible; careful measure of intake and output of fluids—the urinary output should be 80 per cent of the intake; a dose of one ounce of magnesium sulphate (repeated doses of magnesium sulphate, orally, are harmful, because of the irritation of the gastro-intestinal tract with absorption of toxins). Fluids should be restricted to 1,000 cc. a day if edema is present. Bi-daily blood pressure and urine examinations should be routine,

and the patient should be put on an *eclamptic diet*, as follows (to be used not more than 5 days):

- (a) Fruit and fruit juices
- (b) Water and fruit ices
- (c) Berries and melons
- (d) Baked Irish potatoes, asparagus, carrots and lettuce.

If the blood pressure is below 140/90, with oliguria, ephedrine sulphate, grains  $\frac{3}{8}$ , may be given orally every 4 hours.

IV. *Eclampsia*: In the event that convulsions or coma ensue, the treatment is wholly empiric, and each case demands individual treatment. Very often these patients are seen for the first time by the accoucheur. Delivery should not be attempted until convulsions are controlled and the patient shows some evidence of kidney function.

Convulsions: The patient should be protected against self injury by padding and side boards on the bed. A special nurse is desirable. Morphine, grains  $\frac{1}{4}$ , is usually given at once. Have the room darkened and quiet, but do not restrain the patient. A mouth gag, such as a cloth-covered clothes' pin, is advisable to protect the patient from biting her tongue. Nothing should be given by mouth; one ounce of magnesium sulphate may be given by stomach tube when the convulsions are controlled, but still better is a retention enema of magnesium sulphate. In case this does not control the patient's convulsions, or the respirations are depressed, with cyanosis, sodium amytal, grains  $7\frac{1}{2}$ , may be given intravenously. The fall in blood pressure, and corresponding decrease in urinary output caused by the barbitol preparation, is counteracted by the administration of ephedrine sulphate, grains  $\frac{3}{4}$ , hypodermically, every four hours.

The hypertension seen in eclampsia is undoubtedly a compensatory factor of the body in its attempt to excrete urine, chlorides and toxins through the already damaged kidneys. The ephedrine usually causes an elevation of blood pressure (Chen); this is followed by a relaxation of the spasms in the capillaries, and an increased blood supply to the kidneys and brain. Any drug which tends to lower the blood pressure is contraindicated. If the

convulsions persist after the use of intravenous sodium amytal, morphine, grains  $\frac{1}{4}$ , is indicated; follow by sodium amytal, grains 3, intramuscularly, or 10 cc. of 25 per cent magnesium sulphate, intramuscularly, repeated every three to six hours, if necessary. Chloroform and chloral hydrate are contraindicated because of the existing pathology in the liver and the heart. If there is an initial low blood pressure, ephedrine, grains  $\frac{3}{8}$ , should be given every four hours.

Spinal puncture may help to relieve the intracranial pressure if there is an increase in spinal fluid, but, unfortunately, the edema is usually incorporated in the brain tissues. The danger of the patient's breaking off the needle, or a prolapse of the medulla, makes this a hazardous procedure.

Oliguria and Anuria: Because of the incontinence of urine, and occasional spasms of the sphincter of the bladder, a retention catheter should be inserted. This eliminates the complication of distention of the bladder, and the exact amount of urinary output can be measured, which is a good index of prognosis. One of the best methods of stimulating the kidneys is to give 500 cc. of 20 per cent glucose intravenously every eight hours until a good urinary output is established. Occasionally higher concentrations of glucose (30 or 50 per cent), in correspondingly smaller amounts, are given, or 100 cc. of 2 per cent magnesium sulphate, when the glucose fails to cause a diuresis, but these solutions have a tendency to sclerose and obliterate the veins which may be needed in case the coma persists (sometimes as long as a week). Gum acacia (500 cc. of a 6 per cent solution) is sometimes used to dilute the abnormal concentration of the blood, and to increase the urinary output when glucose fails (Dieckmann).

Salysgan and novasurol apparently have little effect on the urinary output, and their use with damaged kidneys is questionable. Normal saline and Ringer's solutions are contraindicated. Bicarbonate solutions and insulin should not be used, in spite of the mild acidosis usually found, unless frequent and careful chemical analyses of the blood can be made. Sweating, by hot packs and drugs, is no longer in use.

As a rule after the delivery of the child there is a marked increase in the urinary output, sometimes as much as 6,000 to 8,000 cc. in 24 hours, with a relief of signs and symptoms. The average output of sodium chloride in the urine of a normal pregnant woman is from 10 to 15 grams per day; in severe eclampsia it is 2 to 5 grams a day, and in post eclampsia 10 to 30 grams per day.

Gastro-Intestinal Tract: If for any reason it is difficult to give glucose by intravenous infusions, and the patient remains in coma, she can be fed by inserting a nasal tube in the stomach, using a 10 per cent simple syrup solution. Start with 50 cc. and increase the amount 50 cc. each hour until the patient is getting 200 cc. an hour. Medication can also be given through the tube. After the fifth day 100 grams of casein are usually added to the tube feeding formula. The quantity of intake depends on the extent of the edema and the acidosis present. A retention enema of 200 cc. of 50 per cent magnesium sulphate is given daily to relieve the edema.

Pulmonary Edema and Cyanosis: Approximately one-third of all eclamptics die of pulmonary edema, and this complication is one of the most serious to combat. The patient is given plenty of fresh air, and the foot of the bed is elevated about 10 inches. The mouth and nostrils should be swabbed out frequently, and if a suction pump is available, it is a valuable asset. A soft rubber ear syringe may be used. Atrophine is usually given, but the benefits from its use are questionable. Oxygen, by nasal tube or tent, should be used whenever cyanosis is present.

Venesection is contraindicated because these patients have a secondary anemia. The blood count may be increased to normal or above, due to the concentration of the blood. If a postpartum hemorrhage follows the delivery, the patient has lost her best defense against infection.

#### DELIVERY

It may be possible, with careful management, to carry a preeclamptic to viability of the fetus, or even to full term. The cervix becomes softer as the expected date approaches, thereby facilitating delivery from below. If the general condition does not



improve under close supervision, steps should be taken to deliver the patient by the most conservative means. As a rule multiparae should be delivered from below. Primiparae should have a pelvic examination to determine the state of the cervix. If it should be soft and easy to dilate, the membranes should be stripped at the internal os, and a medical induction (Watson type) started. In the event that the patient does not go into labor, the cervix can be packed with gauze, the membranes ruptured, small doses of pituitrin given, or a bag inserted. The size of the passenger, the pelvis, the consistency of the cervix (long, firm and closed) may influence the physician to do a low cervical cesarean section, preferably under local anesthesia. It is best to avoid inhalation anesthesia altogether because of the pulmonary edema present. Forceps and episiotomy, if necessary, can be resorted to, under either paracetal or local anesthesia.

**Postpartum Care:** The blood pressure and urine usually return to normal by the end of the lying-in period, but the patient should remain on a preeclamptic diet until seen at the six weeks postpartum examination. At this time blood pressure and urine examinations should be made. Lacerations and erosions of the cervix should be repaired and cauterized, and if the uterus is retroverted, it should be brought forward and a Smith-Hodge pessary inserted and left in place for a month.

Forty per cent of the women who become pregnant soon after having had eclampsia develop chronic nephritis. They should be given contraceptive advice (vaginal diaphragm pessary and lactic acid jelly) for a period of at least two years, and the blood pressure and urine examined periodically.

#### COMMENT

1. In the small series of cases presented herewith all severe cases of preeclampsia and eclampsia with initially low blood pressure were given ephedrine in small doses.

2. When the blood pressure was lowered by barbital preparations, given intravenously, the blood pressure was elevated and maintained by larger doses of ephedrine.

511 Medical Arts Bldg.

## THE NERVOUS CHILD\*

By  
W. HILL McCASLAN, M. D.  
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The future of civilization lies, not with us nor with the marvelous development of machinery, but, with our children. In the past the child has been taken more or less for granted. It has been during the past two decades only that much thought has been given to the psychology of the child. In the past, when presented with a child who refused its food, or one who was fidgety at school, or who presented some problem of behavior, it has been, and often still is, too easy for us to ascribe it to "tantrums" and let it go at that. The problem of the nervous child is one that confronts us all every day—it is up to us whether we will meet that problem in a sane, understanding manner; or whether we will still continue to pass it off lightly as of no consequence. The nervous and physical mechanism of the next generation rests largely in our hands: will we go over it with care and start it out with a sound set of gears, or will we treat it in a lackadaisical manner and allow the flaws to remain, only to crack up later in life?

Neuroses constitute, perhaps, the most widely spread form of disease; these conditions usually have their inception very early in life, and it is in the plastic stages of early childhood that they should be recognized and treated.

Certain races, which have attained a high degree of civilization, notably the Jews, are more liable to generate neurotics; while other races, nearer the savage, are rarely responsible for them.

The problem of the nervous child does not date from his birth—it begins with his conception. Only through intelligent and careful handling of the woman throughout her pregnancy can we hope to have a child who stands an even chance of coping with the exigencies of modern life. The importance of antenatal hygiene is not generally realized, though upon its observance depends, in a large measure, the stability of the race.

Given a firm foundation through the administration of proper food, sufficient vita-

\*Read before the Association in annual session, Mobile, April 16, 1935.

mins, hygienic measures, and whatever else that may be needed to keep up the constitution of the mother, the child, at birth, is ready to begin its active training in the formation of correct habits.

The importance of the early establishment of regular and correct habits can not be over emphasized. Beginning at birth the infant should be put on a regular feeding schedule, and this schedule should be rigidly adhered to. The tendency of dotting grandparents and parents to pick up the infant at the first whimper should be positively discouraged. If a little time is taken to explain the reasons for these instructions, much better cooperation can be obtained. Beginning in early infancy, the child must not be pampered in regard to his food; if this is done it will lead to disastrous results later on. During the latter part of the first year, training in regular habits of elimination should be instituted. The establishment of regular habits of eating, sleeping and elimination is not an easy task, but, if begun at the proper age and handled wisely, these habits become correctly adjusted in the normal child, and are not carried over into adult life as a nucleus for neurotic symptoms. Many nervous symptoms of adult life are traceable to improper habits of childhood.

The ego of the child, perhaps in an embryonic state, is present at birth—hence the importance of establishing regular habits early in life. The development of the ego-consciousness begins during the first two or three years of life. It is the handling of the child during these early years of life which determines whether we will have a normal, sound child or one with a neurotic temperament. It is during these years that the intelligent physician can be of greatest service. To be able to correctly interpret the various manifestations of the nervous child and to be able to intelligently treat these manifestations is an art which every physician should strive to attain.

Children are suggestible and easily affected by those around them; the nervous child brought up in an atmosphere of relatives who constantly have various complaints may develop any of these complaints at an early age and they tend to become increasingly more frequent. The nervous

child is too often the child of the nervous mother and, in many cases, the nervous father. Family relationships are of paramount importance in the etiology and treatment of the nervous child. Difference of opinion in the parents and cases where one parent is too lax and the other too strict play an important part in the development of nervous symptoms. Environment plays an extremely large part in the formation of child character and personality, and also in the diseases of childhood evidenced by abnormal mental attitudes.

One of the chief causes of maladjustment in children is the tendency of many parents to expect more of them than they are capable of accomplishing. They also are prone to instill into their children desires and ambitions often far beyond their capacity for achievement. A great mistake is made by some parents who, largely in attempting to satisfy their own pride and ego, push their children in school and try to have them skip grades. I recently had a case of a very bright child of eight years whom the parents, in their ambition to advance her, had to study at home and skip a grade. She developed a very pronounced tic of the face, extreme irritability, anorexia and insomnia. She was removed from school and taken on a vacation. Within a short time all of her nervous symptoms began to improve. Now, under a corrected regime, she is perfectly normal and shows no signs of nervousness.

The child mismanaged by home or school is bound to get satisfaction from other sources, if he has enough initiative. If the school forces the child to perform work which is beyond his intellectual capacity and out of which he gets no sense of accomplishment, the child becomes truant and otherwise intelligently rebellious. If the parents create artificial, shallow and materialistic standards of living, the child will live by those standards. It is out of such maladjustments that the delinquent child and adolescent is developed. The lessening of the large numbers of young gangsters with which we are afflicted lies, not so much in punishing them for their crimes, but, in treating the nervous child and the social and intellectual misfits in an intelligent manner. By so doing we can help the child early in life to find correct outlets for



mental and physical energies, which otherwise would probably be perverted, and incorrigibility or delinquency be the result.

Any delinquent behavior must be regarded as an individual act, rather than as something unethical. Most children at one time or another take things that do not belong to them. Do not take the attitude that an unpardonable sin has been committed, and rave and rant at the child if he denies it. Approach the subject in a quiet, sane manner and reason it out. Remember that the child has an intelligence of his own, and that he probably has heard you utter an untruthful denial on some subject. Begin early in life to give the child something to do to earn his spending money. See that the work is well done, but be fair about it. This is also an aid in the establishment of regular habits. The child should be furnished healthy outlets for energies that he does not know what to do with.

Dreams play an important part in early childhood. They become more frequent during the end of the third and the beginning of the fourth year; the child here learns to differentiate the dreams from reality. In close association with dreams is the primitive emotion of fear, which is one of the important factors leading to nervousness in children. The fears of nervous children are legion and they can often be traced to unthinking adults. The nurse is, in many cases, to blame. Threats of dire punishment, superstitions, lurid tales, improper moving pictures, and fairy tales in which the frightful predominates all tend to stimulate and distort the vivid imagination of the unstable child. Oftentimes it is the fear of something happening to a loved one which precipitates the symptoms. I had a case of a child of four years who was afraid to go to sleep at night for fear that her mother or father would die. The mother would have to lie down with her and hold the child in her arms for a long time before she could be quieted enough to go to sleep. By careful and tactful management and a close attention to the associations of the child her fears were gradually allayed and, after several months, disappeared.

Every child passes through a stage in which vivid imagination and day-dreaming predominate. Do not attempt to alter the personality of the child by scolding such

outlets of mental energy. Day-dreaming is an unwholesome form of imaginative life only when it replaces activity instead of stimulating it.

Fatigue is a factor of great importance in the causation of nervousness in children. This may be mental or physical or a combination of the two. The overstimulation of modern life tends to keep the child, as well as the adult, in a continual whirlpool of activity. In order to insure a stable nervous system in a child it is essential that he get proper and sufficient rest, both mental and physical.

Another factor which plays no mean role in the development of the nervous child is the large number of one-child families, which have steadily multiplied in the past two decades. In urban centers many children are brought up in hotels and apartment houses. In these two classes the child often has no associates of his own or approximate age. He is brought up largely in association with adults. And the desire of parents to retain all the pleasures and excitement of youth has resulted in forcing on their children the pleasures and excitement of adult life.

Infectious diseases are of etiologic importance in the development of nervous symptoms, not only from the effect of involvement of the central nervous system, but also through interference with sensory mechanisms, as when the eyes or ears are damaged, and through the toxic effects on nutrition. Rheumatism in childhood deserves especial mention on account of its close relationship to chorea. Removal of tonsils is often a precipitating factor in anxiety attacks in children. This is entirely due to the thoughtlessness of parents and associates who tell, in the presence of the child, of the vomiting of blood after the operation, of so and so who died under the anesthesia and other lurid tales which stimulate the imagination of the susceptible child.

In recent years encephalitis has presented a new problem in behavioristic aspects of child conduct. Many of these cases are left with stigmata, often not noticed immediately after recovery from the attack. Unless a detailed history of the case is taken and a careful physical examination made, the true significance of behavioristic de-



linquencies will be overlooked. Peculiar mannerisms, tremors, twitching of various muscles and increased reflexes must be looked for. Following encephalitis the intellectual ability of the child is not often affected; but there is frequently a change in personality, usually antisocial in nature. The treatment of these children is very difficult. Some post-encephalitic children require institutional care on account of their antisocial tendencies. Others can be handled at home with judicious care. But, in all of these cases, the prognosis must be very guarded. It is most important that all excitement be removed from these children, and regular habits of daily living be strictly adhered to. These cases do much better in the country than in cities.

Before leaving the etiology of nervous conditions in children we must not fail to mention, at least, the old reliable, which, when all else fails, can always be blamed for the trouble—the endocrine system. When we enter this subject we step off into deep water, the surface of which is still almost unruffled. To quote Louis Berman [*Am. J. Psychiat.* 12:215 (Sept.) 1932], who after an extensive study, draws the following conclusions:

1. Crime is due, in a Gestalt sense, to a perversion of the instinctive drives dependent upon a deficiency and imbalance of the endocrine glands.

2. Certain types of crimes are associated with certain types of endocrine malfunctioning.

3. Most criminals are derived from juvenile delinquents and most juvenile delinquents tend to become criminals.

4. Endocrine imbalance and deficiency have been found to occur in about the same frequency and of about the same type in juvenile delinquents as in criminals.

5. Endocrine treatment of the specific endocrine condition in juvenile delinquents has resulted in a correction of the delinquent behavior.

6. Juvenile delinquency and its sequel, crime, can be prevented by proper attention to the status of the different endocrines which contribute to the development of the normal social personality during childhood and adolescence.

7. All concepts of justice, punishment and crime must be revised and reconstructed in the light of these findings.

J. Notkin (*Ibid* 12: 331, 1932) and many others, on the other hand, conclude that endocrine disturbances are rarely associated with psychoses and cannot be regarded as etiologic factors. You may take your choice as to which side of the fence you wish to jump.

The manifestations of nervousness may show themselves in infancy in fretfulness, thumb-sucking, head rocking, voluntary vomiting, extreme sensitiveness to sound and light, holding of breath, difficulty in swallowing and other spasmodic conditions of a spasmophilic nature. In early childhood anorexia and perversities of appetite, voluntary vomiting, aversions to special articles of food, extreme restlessness, muscular twitchings, tics, muscular incoordination, night terrors, stammering, enuresis, masturbation, irritability and tantrums, perversity, negativism, phobias of various kinds, extreme timidity, self consciousness, emotionalism and over vivid or morbid imagination, may be the manifestation of nervousness.

In many cases the nervous child is also a delicate child, and is nervous because of his constitutional inferiorities, inherent or acquired. Great care should be taken to determine whether an ailment is real or imaginary. A very common response of the unstable child is the invalid reaction—this may follow some illness, during which the child received much attention—and the habit of profiting by complaint is established. In other cases the symptoms are patterned after complaints of some other member of the family. Children are quite suggestible and imitative, and are quick to pick up the habits of others. Recently I saw a girl of fourteen who thought she had heart trouble. She complained of shortness of breath, pain over the heart with an accompanying smothering sensation, insomnia with frequent bad dreams. She would not take any exercise because she was afraid exertion might cause her to drop dead. Emotionally she was very unstable. This chain of symptoms had been present for over a year. Under careful questioning it was learned that she had a brother to die of heart trouble about two years ago. The

girl was often present when the doctor visited the patient, and she had heard him speak of leaking valves and of various symptoms which occurred. This was all that was necessary for her unstable and suggestible constitution. A thorough physical examination revealed no organic disease. This was carefully explained to her, and she was persuaded to take a walk each day, increasing the distance daily. Her condition steadily improved and at the end of a month all symptoms of the heart trouble had disappeared. In such cases as this we find the beginning of both hypochondriacal and anxiety states in children.

In the prevention and treatment of nervous conditions in children lies one of the greatest fields for the general practitioner and the pediatrician. As in general public health work, prevention is easier and more effective than cure. As previously stated, the prophylactic treatment begins when the mother becomes pregnant; this is followed by the early establishment of regular and correct habits in the young infant.

In treating the nervous child the physician finds that his task inevitably takes him into the home, and that he has to treat a situation, not a symptom. Herein lies one of the greatest difficulties in the treatment of nervous disorders, for a great part of the treatment has to be directed toward the parents. To train the child the parent must train himself or herself; true education must involve the parent, much as we dislike to think that our education is not completed. To encourage good habits and develop in the child a fine personality, those people who come in contact with him must be able to control themselves in their daily lives and present to their children examples of courtesy, kindness and truthfulness in word and deed. Both father and mother must be instructed in the groundwork of child understanding. Many so-called delinquencies in older children and young adults could have been prevented if the parents, during the preschool age of their children, could have had adequate instruction in the understanding and training of their children. Cameron's "The Nervous Child" and the book by Richards, "Behavior Aspects of Child Conduct," are admirably suited for both parent and physician.

The treatment of the nervous child in-

volves the training of the child, for the nervous symptoms may be only intelligible as part of the adaptation of the child to the environment. In developing the best adaptation of the child, we must remember that as food is building up the tissues, correct habits with regard to food are helping to organize a sound personality; and the same principle applies to the other bodily functions.

Sex instinct, and its manifestations, is a condition which causes parents and teachers a great deal of worry. Not so long ago it was considered indecent to discuss such matters with a child before he had reached his late 'teens. Unfortunately, many parents still have this feeling. The subject can be discussed in a simple manner with a child of ten or twelve years, and much harm from improper teachings of older children can be avoided. The little book, "Growing Up," by de Schweinitz presents the subject in a pleasing and understandable manner, and is well worth while to any parent. The parent who can deal in a straightforward way with sexual instinct and its manifestations is a valuable asset to any child, and especially so to one who presents symptoms of nervousness, often due to ignorance or abuse of sex urges.

One of the first requisites to effective treatment is the removal of all sources of focal infection and reflex irritation, both of which are common in those of inferior constitution and which tend to aggravate conditions already existing, not only through their immediate toxic and irritative effects, but also because, through long continued over stimulation of the vegetative nervous system and the chromaffin system, they cause a secondary adrenal depletion.

One essential point in the treatment of nervous children is seeing to it that they have playmates of approximately the same age. A great forward step in this direction has been in the development of the nursery school and the increase in the number of kindergarten schools. In these schools they are not only provided with playmates but they learn to take systematic direction, both in play and work. Here also they are taught correct habits of eating, sleeping, body cleanliness and other essential good habits, which almost unconsciously and without effort are absorbed by the plastic



child. Children who attend such schools can almost invariably be singled out from those who have not had this advantage after they enter the public school.

The school plays no mean part in determining whether a child be of stable mental calibre. It is most important for the teacher of the elementary grades especially to be versed in the rudiments of child psychology. The application of the Binet-Simon intelligence test in capable hands is an invaluable aid in helping to determine whether a child who is lagging behind his class is simply lazy and not applying himself or whether his mental age is such as to prohibit him absorbing the subjects given.

When presented with the problem of a nervous child the physician must not attempt to hurry through with the examination. Rather should he give his painstaking attention, not only to the physical examination, but also, to the history of the case and the classification of the child, whether he is the egocentric, domineering type or the timid, shrinking, invert type. If of the former type, firmness in controlling exuberant tendencies and judicious punishment are called for. If of the timid type, punishment should be very carefully given, if at all; the child's initiative must be encouraged, his fears quieted and praise even beyond his just deserts given. In obtaining the history of a case and in giving instructions to the parents it is a much wiser plan not to have the child present; otherwise the child absorbs everything that is said, and this often is detrimental to successful treatment.

Probably the most common complaint that the pediatrician hears is "My child won't eat." Certainly this is one of the most difficult problems with which we have to deal. Usually the best advice to give is not to urge the child to eat, but merely put the food before him and pay no attention to him during the meal. This treatment carried out regularly and without making any fuss over it will often produce results in a few days. If this method fails after a few days trial, other expedients, depending upon the nature of the case, will have to be tried. Among other ways to meet this problem may be mentioned: praise the child when he eats well and properly; parents eat the food that is set before

them and do not make comments about it; help the child to get acquainted with new foods by giving a small amount to begin with and gradually increasing; do not pamper the child; make him realize that you expect him to eat the food set before him—be firm about it, but don't lose your temper; read health stories to the child and show him pictures of the foods to be eaten (*Healthyland*, published by the American Medical Association [*Hygeia*], is one of the most excellent books on this subject I have ever seen); deprive him of dessert or some food of which he is especially fond if he does not eat the rest of his meal; force is sometimes necessary in those children who spit out the food or vomit at will—continue to feed him until he keeps it down; see that the child is not excited at meal times; try to insure a half hour's rest before meals.

In spite of these measures we meet with many failures. These can usually be laid to lack of cooperation of the parents, inability of the parents to carry out the directions or finally to insurmountable obstacles in the child's environment. Many parents consider it an insult if told they are not handling their child properly. A great deal of tact must be used in explaining to them the reasons for a change in their method of dealing with the child. Some parents are too ignorant to carry out the plans as outlined, and some are temperamentally incapable of following directions. Financial and sentimental reasons often prevent the parents from making a move which would be to the child's advantage.

In conclusion, I wish to emphasize the fact that the burden of preventing and treating nervous disorders in children lies largely with the pediatrician and the family physician. The obstetrician can help in properly preparing the way for a normal child. But, to the family physician, who comes into such intimate contact with the home life of the child; and to the pediatrician, to whom is entrusted the supervision of the infant's nutrition, are given the greatest opportunity to gradually instruct the parents in the elementary lessons of child psychology. If this training be begun when the infant is a few days old and continued throughout the child's life many cases of complex and difficult nervous dis-

orders will be prevented and a saner, more stable generation will follow us. Don't tell the mother that her child is just nervous or that the "tantrums" will not amount to anything; approach your case with a firm foundation of child psychology and treat it in a sane, intelligent manner.

## GALLBLADDER VISUALIZATION

By

WILLIAM WILKERSON, M. D.

Montgomery, Ala.

"When Graham and Cole announced their discovery of a phthalein compound which, when given orally or intravenously, would visualize the gallbladder, they closed a great gap in gastro-intestinal radiographic diagnosis. Previously the diagnosis of the diseased gallbladder rested on purely presumptive evidence, or was reached by the process of eliminating all other causes of digestive distress. Any rounded shadow in the upper right abdominal quadrant, which could not be identified as another organ, was taken to be a diseased gallbladder, and the finding of a nest of gallstone shadows was a cause for rejoicing. With the announcement of gallbladder visualization this picture changed. We are now able to give some definite positive information to the surgeon and clinician. The radiological diagnosis of gallbladder diseases changed from a guessing contest to a standardized procedure of proven worth and accuracy."

The above is the opening paragraph from Spangler's<sup>1</sup> excellent paper read at the San Antonio meeting of the Southern Medical Association. Since 1925 Spangler has had 714 traceable cases of gallbladder visualization at his clinic and it is upon these cases that his interesting and instructive report is based. "Usually the dye was given by the oral method; only 63 patients were examined after intravenous injection. Thirty-four of the 714 patients received more than one test. We have had the usual percentage of nausea and diarrhea, with occasional vomiting in the oral cases, but with no severe reactions."

"We have studied the histories of 714 patients having cholecystography, with the purpose of determining the extent of agreement of the x-ray findings with the final clinical (medical and surgical) diagnosis. Practically 100 per cent of cases with x-ray findings of gallstones had clinical confirmation. In cases with x-ray diagnosis of 'non-filling diseased gallbladder' there was clinical confirmation in 95 per cent of cases. With an x-ray diagnosis of 'filled diseased gallbladder' there was clinical confirmation in 90 per cent of the cases. With the x-ray diagnosis of 'normal gallbladder' there was clinical agreement in 88 per cent of the cases."

"The most common clinical diagnoses, in which there was disagreement with the x-ray findings, were pelvic disease, cardiovascular disease, or in a few cases disorders of the appendix or kidney."

For decades innumerable tests, treatments and procedures have come, been briefly and excessively acclaimed and then been quietly discarded as being either useless or actually harmful. Therefore, it is always pleasant and reassuring to realize that an innovation has withstood the test of time and that, after a period of years, it is even more highly regarded than at its inception. And Spangler's study will serve to strengthen the belief held by most practitioners that cholecystography is of real and increasing value to both doctor and patient. And this will be especially true if physicians heed the author's "urgent plea that all gallbladders be considered normal until proven to be diseased."

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**Blood Stream Infections**—Inflammation is a defense mechanism by which microorganisms which gain entrance to the tissues are circumscribed and imprisoned until they can be destroyed. When this process is inadequate, blood stream infection occurs. The body has no effective mechanism for destroying streptococci and staphylococci in the blood stream. When they lodge in the capillaries in most of the organs and tissues of the body a focus of inflammation is induced which may either eradicate the bacteria, or, if ineffective, may become an additional source of infection of the blood stream.—*Simonds, Texas State J. Med., May '35.*

1. Spangler, Davis: Nine Years' Experience with Gallbladder Visualization, *South. M. J.*, 28: 144, Feb. '35.



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### AN IMPORTANT UNITED STATES SUPREME COURT DECISION

Subjoined is a unanimous opinion of the Supreme Court of the United States handed down by Chief Justice Hughes, which upholds and defends for the good of society the "professional ethics" clauses of the healing professions which have been written into practically all state statutes. The "ethics" and "the traditions" which permeate the older guilds of the healing arts have absolutely no import or significance for the modernistic cults and paths, whose motivating force springs from commercial greed. Even to the average lay mind, adherence to such intangibles is as incomprehensible as a jig-saw puzzle. For these reasons it is comforting to find the highest tribunal of this country preserving ethical standards in the following convincing language:

"We do not doubt the authority of the State to estimate the baleful effects of such methods and to put a stop to them. The Legislature was not dealing with traders in commodities, but with the vital interest of public health, and with a profession treating bodily ills and demanding different standards of conduct from those which are traditional in the competition of the mar-

ket-place. The community is concerned with the maintenance of professional standards which will insure not only competency in individual practitioners, but protection against those who would prey upon a public peculiarly susceptible to imposition through alluring promises of physical relief. And the community is concerned in providing safeguards not only against deception, but against practices which would tend to demoralize the profession by forcing its members into an unseemly rivalry which would enlarge the opportunities of the least scrupulous. What is generally called the 'ethics' of the profession is but the consensus of expert opinion as to the necessity of such standards."

### SUPREME COURT OF THE UNITED STATES

Harry Semler, Appellant, *vs.* Oregon State Board of Dental Examiners, L. A. Rosenthal, Leonard R. Andrews, *et al.*, etc.

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Appeal from the Supreme Court of the State of Oregon

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(April 1, 1935)

Mr. Chief Justice Hughes delivered the opinion of the Court.

This case presents the question of the validity of a statute of the State of Oregon, enacted in 1933, relating to the conduct of dentists. Oregon Laws, 1933, Chapter 166. Previous legislation had provided for the revocation of licenses for unprofessional conduct, which, as then defined, included advertising of an untruthful and misleading nature. The Act of 1933 amended the definition so as to provide the following additional grounds for revocation:

"... advertising professional superiority or the performance of professional services in a superior manner; advertising prices for professional service; advertising by means of large display, glaring light signs, or containing as a part thereof the representation of a tooth, teeth, bridgework or any portion of the human head; employing or making use of advertising solicitors or free publicity press agents; or advertising any free dental work, or free examination; or advertising to guarantee any dental service, or to perform any dental operation painlessly."

Plaintiff, a dentist practising in Portland, Oregon, brought this suit in the state court against the members of the State Board of Dental Examiners to enjoin the enforcement of the statute, alleging that it was repugnant to the due process and equal protection clauses of the Fourteenth Amendment, and impaired the obligation of contracts in violation of Section 10, Article I, of the Constitution of the United States. The Circuit



Court, overruling this contention, sustained a demurrer to the complaint and, upon the refusal of the plaintiff to plead further, the suit was dismissed. On appeal, the Supreme Court of the State took the same view of the federal question and affirmed the judgment. 34 Pac. (2) 311. The case comes here on appeal.

Plaintiff alleged in his complaint that he was licensed in 1918; that he had continuously advertised his practice in newspapers and periodicals, and by means of signs of the sort described in the amended statute, and that he had employed advertising solicitors; that in his advertisements he had represented that he had a high degree of efficiency and was able to perform his professional services in a superior manner; that he had stated the prices he would charge, had offered examinations of prospective patients without charge, and had also represented that he guaranteed all his dental work and that his dental operations were performed painlessly. He further alleged that the statements in his advertisements were truthful and were made in good faith; that by these methods he had developed a large and lucrative practice; that through long training and experience he had acquired ability superior to that of the great majority of practising dentists; that he had been able to standardize office operations, to purchase supplies in large quantities and at relatively low prices, and thus to establish a uniform schedule of charges for the majority of operations; also that he had made contracts for display signs and for advertisements in newspapers, and had entered into other engagements, of which he would be unable to take advantage if the legislation in question were sustained, and, in that event, his business would be destroyed or materially impaired.

Plaintiff is not entitled to complain of interference with the contracts he describes, if the regulation of his conduct as a dentist is not an unreasonable exercise of the protective power of the State. His contracts were necessarily subject to that authority. Nor has plaintiff any ground for objection because the particular regulation is limited to dentists and is not extended to other professional classes. The State was not bound to deal alike with all these classes, or to strike at all evils at the same time or in the same way. It could deal with the different professions according to the needs of the public in relation to each. We find no basis for the charge of an unconstitutional discrimination.

The question is whether the challenged restrictions amount to an arbitrary interference with liberty and property and thus violate the requirement of due process of law. That the State may regulate the practice of dentistry, prescribing the qualifications that are reasonably necessary, and to that end may require licenses and establish supervision by an administrative board, is not open to dispute. The State may thus afford protection against ignorance, incapacity and imposition. We have held that the State may deny to corporations the right to practise, insisting upon the personal obligations of individuals (*Miller v. State Board of Dental Examiners*, 90 Colo. 193, 287 U. S. 563),

and that it may prohibit advertising that tends to mislead the public in this respect. *Dr. Bloom, Dentist, Inc. v. Cruise*, 259 N. Y. 358, 363; 288 U. S. 588.

Recognizing State power as to such matters, appellant insists that the statute in question goes too far because it prohibits advertising of the described character, although it may be truthful. He contends that the superiority he advertises exists in fact, that by his methods he is able to offer low prices and to render a beneficial public service contributing to the comfort and happiness of a large number of persons.

The State court defined the policy of the statute. The court said that while, in itself, there was nothing harmful in merely advertising prices for dental work or in displaying glaring signs illustrating teeth and bridgework, it could not be doubted that practitioners who were not willing to abide by the ethics of their profession often resorted to such advertising methods "to lure the credulous and ignorant members of the public to their offices for the purpose of fleecing them." The Legislature was aiming at "bait advertising." "Inducing patronage," said the court, "by representations of 'painless dentistry,' 'professional superiority,' 'free examinations,' and 'guaranteed' dental work" was, as a general rule, "the practice of the charlatan and the quack to entice the public."

We do not doubt the authority of the State to estimate the baleful effects of such methods and to put a stop to them. The Legislature was not dealing with traders in commodities, but with the vital interest of public health, and with a profession treating bodily ills and demanding different standards of conduct from those which are traditional in the competition of the market-place. The community is concerned with the maintenance of professional standards which will insure not only competency in individual practitioners, but protection against those who would prey upon a public peculiarly susceptible to imposition through alluring promises of physical relief. And the community is concerned in providing safeguards not only against deception, but against practices which would tend to demoralize the profession by forcing its members into an unseemly rivalry which would enlarge the opportunities of the least scrupulous. What is generally called the "ethics" of the profession is but the consensus of expert opinion as to the necessity of such standards.

It is no answer to say, as regards appellant's claim of right to advertise his "professional superiority" or his "performance of professional services in a superior manner," that he is telling the truth. In framing its policy the Legislature was not bound to provide for determinations of the relative proficiency of particular practitioners. The Legislature was entitled to consider the general effects of the practices which it described, and if these effects were injurious in facilitating unwarranted and misleading claims, to counteract them by a general rule even though in particular instances there might be no actual deception or misstatement.

The judgment is affirmed.

## HEAD INJURIES AND THEIR SEQUELAE

At the Cleveland session of the American Medical Association, Wechsler<sup>1</sup> read a paper in which he analyzed one hundred cases of head injuries and their post-traumatic syndromes. "Twenty-six patients showed major or minor evidence of organic involvement of the nervous system; in seventy-four the sequels were limited to mental symptoms. All patients had records of roentgen examination of the skull, a great many had records of lumbar punctures, a number had records of psychometric tests, and a few had reports of encephalographic studies." The author then goes on to state that too much significance and importance is attached to fracture (of the skull) itself and that a person may sustain a fracture and no brain damage; or that he may have no fracture and yet have severe injury to the brain.

"If we do not consider the patients in this series who had objective signs of brain injury . . . , there remains a group of individuals who, following a blow on the head, complain of subjective disturbances which are difficult to evaluate . . . . They consist essentially of headache, dizziness and impairment of memory or lack of power of concentration and fears and anxieties, vasomotor disturbances, tremors, impairment of vision, inability to work and a host of other complaints. The dizziness in most of the cases does not represent an obvious vestibular reaction; certainly it is not the true vertigo which is accompanied by nystagmus, past-pointing, falling, or nausea and vomiting. The tremors and other objective signs are found on close examination not to be organically determined, while the impairment of memory is found to consist of lack of attention rather than a true defect."

Patients having the subjective symptoms described above Wechsler divides into four groups—malingering, traumatic hysteria, concussion or traumatic encephalopathy, and traumatic neurosis. Of the first he says that "true and unalloyed malingering is probably the least important and certainly the least common of the syndromes following head injury." And he adds that "malingering invariably occurs when the

trauma is slight and the initial symptoms minimal." Traumatic hysteria, he declares, to be the "most common sequel of head trauma that is not accompanied by gross evidence of organic brain injury." "The patient makes unconscious use of the trauma to solve personality difficulties." Of concussion, he says that "there is an increasing tendency to speak of concussion of the brain in terms of traumatic encephalopathy; in fact, the two terms are beginning to be used interchangeably." He believes that minute hemorrhages and other evidences of pathologic changes which commonly escape diagnosis are responsible for this condition, which is not uncommon in "punch drunk" prize fighters and others who received "trauma on the head, which is accompanied by unconsciousness at the time of the accident." Traumatic neurosis, in the author's opinion, is comparatively uncommon and is very resistant to treatment.

He also makes due allowance for the part that alcoholism, syphilis, and cerebral arteriosclerosis may play in the causation of the above mentioned conditions.

It is encouraging to many physicians to hear a noted neurologist admit that these subjective post-traumatic syndromes are difficult to diagnose. And most practitioners, medical or surgical, will be most surprised to note the rarity of malingering in Wechsler's experience. The average physician is, of course, not a neurologist, and it is quite possible that he may resort to the diagnosis of malingering too readily, and he will be loath to challenge a man of the author's eminence. But, especially when he is being plagued by the patient and his relatives, by various insurance agents and by attorneys on both sides, it will be very difficult for him to believe that malingering plays so minor a part as Wechsler claims.

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#### POST-GRADUATE COURSES IN PEDIATRICS START

Following the marked success of the course in obstetrics given by Dr. J. R. McCord, the Association is this summer sponsoring a similar undertaking on pediatrics. The Children's Bureau of the Department of Labor is carrying the main financial burden with the Alabama State Medical Asso-

1. Wechsler, I. S.: Trauma and the Nervous System, J. A. M. A. 104: 519 (Feb. 16) 1935.



ciation assuming some of the travel expense incidental to the course.

Recently the Children's Bureau announced that Dr. T. Cooke Smith of the University of Louisville, School of Medicine, and Dr. John M. Saunders of Vanderbilt University, School of Medicine, would divide the time in Alabama with the possibility of others assisting. The present program calls for a series of meetings at certain strategic centres in the state where physicians from surrounding counties can congregate. Daily meetings each afternoon from Monday to Friday will enable the lecturer to cover many of the important phases of child care and to discuss the problems that confront every physician treating children.

Alabama is fortunate in having men of such high caliber come to our state and bring us the newer things in pediatrics. It is well recognized that the first year of life is the most dangerous and that in Alabama the infant mortality rates are high, last year more than 3,800 babies in the state dying before reaching their first birthday.

Physicians will be notified of the schedule of clinics in ample time and it is hoped that every doctor who does any practice among children will attend at least some of the meetings. It would be ideal if this series of lectures and demonstrations could be given in every county of the state, but failing this, an attempt has been made to schedule at least one meeting within reach of all.

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#### THE ATLANTIC CITY MEETING OF THE AMERICAN MEDICAL ASSOCIATION

The registration of American physicians at the Atlantic City meeting of the American Medical Association was one of the largest, if not the largest in its history—8,469. It was estimated that more than 15,000 visitors and guests were attracted to Atlantic City because of this occasion. As had been extensively publicised prior to this meeting, it was a joint one between the American Medical Association and the Canadian Medical Association, the first of its kind to be held on the American Continent. When one observed the complete harmony everywhere apparent, and the

unity of purpose and fusion of ideals of scientific medicine taking place at every turn, one could but wonder that such an happy thought had not long since been hatched out. In some indefinable way, one could sense the sobering influences of British medicine wafted to our shores via the Canadian route; and in turn, one could equally sense the stimulating forces of American medicine brought into play upon the Canadian contingency. Evidence of these facts was conspicuous at the dinner given on Monday evening to the officers and delegates of both associations, when key-note addresses were made by representatives from both associations. Again was it emphasized on the Tuesday evening public session by many addresses from both sides, brought to a climax by the presentation of an address by the world renowned Dr. DeFoe, whose fame has found favor, because of a stubborn persistence on the part of a general practitioner to remain true to his charge, even though such charge appear in the nature of a multiplicity of infants arriving synchronously from a common source. Even more pronouncedly was this tendency manifested at a joint dinner given Wednesday evening which was participated in by the officers of the American Medical Association, including its Board of Trustees and the State and Provincial Health Authorities of North America. Broad policies, as they pertain to medical practice and the activities of official health departments were freely and frankly discussed. Medical representatives of the Public Health Service and of the Children's Bureau were present, who, in anticipation of the enactment into law of the Social Security Act endeavored to outline broad policies for the closer integration of the medical profession and official health agencies, Federal, State and local. At the close of this meeting, a resolution was adopted requesting officials of the American Medical Association and representatives of the Board of Trustees to collaborate with the official Federal agencies charged with the dispensing of these funds, in devising sane and suitable plans for putting into effect the purposes of the medical phases of the Security Act. This meeting was likely of more significant and portentous import than any held within recent years of the

American Medical Association. On this occasion there seemed to spring to life a feeling of rapprochement between the practicing physician and his twin brother, the official medical officer, which, in the years to come, and in the light of a completer understanding, can lead only to a purer and finer service on the part of both. As a consequence, the subsequent deliberations held by the State and Provincial Health Authorities, both in Atlantic City and in Washington, were freely participated in by the officers of the American Medical Association who made valuable suggestions in the matter of shaping tentative future programs, looking to the improvement of health and medical services.

Of particular importance to the medical profession is that portion of the Security Bill providing Federal subsidies to states for services for crippled children. The amount made available to the states for this purpose is \$2,850,000 annually, to be administered through an approved state agency. In Alabama, the machinery through which rehabilitation and crippled children's activities have been conducted has been attached to the Department of Education, with the State Health Officer as consultant, medical adviser and liaison officer. In the development of future expanded programs and policies it is highly important that there be complete and harmonious integration of the medical profession, through which the technical service must be rendered, with all interested agencies, both official and voluntary, seeking to improve community life. The State Health Officer has already expressed these views to the officials of the Education Department who will likely be responsible for the administration of the provisions of this act, and they are in complete accord. It was further suggested that, at the proper time, the details of the program be determined only after conference with the existing orthopedic staff and official representation from the State Medical Association. In order that the members of the Association may have a better concept of these matters, there appears in another section of this issue of the *Journal* a brief synopsis of the provisions of the act, as they pertain both to maternal and child health and to crippled children as outlined by the Federal Children's Bureau.

But, to return to the Atlantic City meeting:

Alabama, in order to see that her native son, Dr. McLester, was fittingly installed as the next president, had sixty-three members in attendance. The magnificent and spacious municipal auditorium, said to be the largest in the world and erected at a cost of some \$15,000,000, provided the most perfect accommodations for all section meetings, scientific and commercial exhibits and public receptions with ample room to spare. Orderly and clock-like precision, including the workings of the House of Delegates, characterized each day's proceedings and the wealth of scientific and commercial material, attractively presented, has hardly before been paralleled. The presidency-elect went to Dr. J. Tait Mason, of Seattle, Washington, who, though living all of his professional life on the Pacific Coast, was born, reared and educated in Virginia. The vice-presidency went to Dr. J. H. Cannon, of South Carolina and the speakership of the House of Delegates to Dr. Nathan Van Etten, of New York, and the vice-speakership to Dr. H. H. Shoulders, of Tennessee, while Dr. A. A. Walker, of Alabama, was appointed to the Council on Scientific Assembly to succeed Dr. Frank Smithies. It will thus be seen that many positions of honor and trust within the American Medical Association are now being held by Southern physicians. The next annual meeting will be held in Kansas City.

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Can the druggist be taught the sanctity of the prescription? Many physicians, made cynical by experience, are skeptics, and prefer to eliminate the element of doubt by furnishing their own medicines. The druggist will cease tampering with prescriptions and meddling between doctor and patient if he sees that the doctor is determined that he shall do so, or go out of business. A doctor who is wide-awake, alert, and vigilant to see that his interests are protected, and his instructions carried out, will receive good service. Morality, like everything else, is taught by necessity, and the doctor who desires to be a success, professionally and financially, must lay upon the druggist the necessity of furnishing the exact remedies ordered in the prescription on penalty of having his dishonest methods published.—*Ed., Penn. M. J., June '35.*



## TRANSACTIONS OF THE ASSOCIATION

TRANSACTIONS OF THE SIXTY-EIGHTH CONSECUTIVE ANNUAL SESSION OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA, HELD AT MOBILE, APRIL 16-18, 1935.

First Day, Tuesday, April 16

The Medical Association of the State of Alabama convened in the ballroom of the Battle House and was called to order at 9:00 A. M. by the President, Dr. W. M. Cunningham of Jasper.

Invocation was offered by Reverend Father P. H. Yancy, S. J., Spring Hill College.

Addresses of welcome were delivered by Hon. Cecil F. Bates, Mayor of Mobile, and Dr. W. R. Meeker, President of the Mobile County Medical Society, host to the Association.

Dr. Carl A. Grote, Huntsville, presented the President, Dr. Cunningham, who addressed the Association as follows:

### *The President's Message*

There is special charm in trekking to Mobile at this season of the year. Mobile always smiles earliest with bud and bloom, even before Winter's grip has loosed its hold elsewhere in Alabama. No city is more interesting to the visitor, whether he hails from the East, the West, the North or the South. This is because of Mobile's historic background. Besides the visitor's enjoyment of the City's modern accomplishments and advantages, there are romance and old world atmosphere and heroism of people who have made Mobile famous in history, which may be eagerly delved into by the visitor to his enjoyment and satisfaction.

Not least in interest are the accomplishments, the activities and the devotion of the medical men in the past, who wrought in this City, and built and shaped the destinies of organized medicine in Alabama.

It is not our purpose, nor is it now opportune to recount the deeds of valor, the heroism, the privations for the sake of medical knowledge, the devotion to duty as they saw it, of these pioneers in medicine. It is, however, meet and proper to recall even here and now, that we owe a debt of gratitude to these men who have so wisely opened the way to the advancement in medical knowledge—a debt we can but partially repay, only by showing a like devotion to, and an interest in, the fundamentals so wisely laid before us; and to foster the traditions which time has proven to be the only safe and sound foundation on which our superstructure can be built with safety to withstand the ravages of time.

The names of these heroes are not only imprinted indelibly on our minds, but stand out in bold relief in the pages of written history, so that I need not recount them by name. Josiah Nott, Wm. Anderson, Geo. A. Ketchum, Frank Ross, J. W. Mallett, F. E. Gordon, J. F. Heustis, pioneers in the teaching of medicine in Alabama; and Marechal, Mastin, Gaines, Sledge, Rhett Goode and Harry T. Inge—these are not all, but a few of them. As a tribute of respect to their memory, and as a token of our esteem for their achievements, and for the influence of their lives upon us, and with a deep and lasting reverence for the heritage they have left us, let us for a brief moment arise. Please be seated.

Uppermost in the minds of most, if not all of us, are thoughts in reference to the preponderance of the legislation now being proposed pertaining to the practice of medicine.

Among the bills proposed, and actually before the legislatures, both State and National, is the so-called Wagner Bill which seeks to socialize medicine. The motives which have prompted politicians to sponsor such a measure as the Wagner Bill are not exactly understandable, and should give rise to question by the public. The wish to gain popular favor at the expense of both the medical profession and the public, by riding a popular wave to gain temporary fame—this may have been an incentive.

Whatever the motive, and whatever the provisions aimed at in bringing this bill before Congress, it is hoped that a sane and sober public, after sane and sober thought, will disapprove of the measure, overwhelmingly.

The same may be said of the so-called Epstein Bill, which is promoted by an organization known as the American Association for Social Security, and sponsored by the Association's agents before State Legislatures, in the hope of having the several States pass this measure as State law. It is to be hoped that at least our own State Legislature will be able to see that the measure is ill-advised.

The operation of the measure, if it should become a law, would be to not only destroy initiative in the medical profession in its attainments, but also to destroy initiative in the very persons who are supposed to be benefited. The more this class of individuals is helped, the more they will expect and take. Metaphorically, the operation of the measure is a wholesale blood transfusion, rendering the donor feeble and anemic and providing the recipient with the means of becoming corpulent and plethoric by other than his own efforts, this transfusion of blood to be a perpetual thing, with no prospect of cure, not even the intention of a cure. Must it be that the honest toiler shall by law feed the sloth? In its last analysis, the operations of the measures known as the Wagner Bill and the Epstein Bill are pure Socialism.



By referring to the sloth, I do not mean to imply that we should not relieve distress and suffering to the extent of our ability. We are doing this. But will the skillful doctor give expert service under duress, where initiative has been destroyed, and the time honored relation of doctor and patient has been eliminated?

There was never a time in the history of medicine, when the medical profession was put to the test to the extent to which it is now being put. It is time for sane and sober thought.

Excuse is being made by certain interests in our midst and elsewhere for the establishment of so-called group hospital service. This movement is being sponsored on the assumption that State medicine is upon us anyway, and that this will be a means of forestalling the latter. Should we jump into the fire to keep from being burned? Group hospital service and group medical service have sprung up in many centers during the last few years. They flourish for a while and gradually die out. They appeal to the public and to some of the profession, but after having done violence to the organized profession they fail in their purposes and disappoint their promoters. Statistics show that both the mortality and the morbidity in centers adopting group practice are increased over that which obtained before by the adoption of such systems. Comparisons also indicate increased cost.

Margaret Sanger's Birth Control Bill, with petition attached, was mailed broadcast to doctors over the Nation, and was no doubt received by most of you. It was accompanied by a request to get signers to it and hurry it back to Washington, so that Congress could act quickly, ere some baby might be born that was not really intended to be born.

There is probably no time in the history of the medical profession in which a greater number of bills has been proposed effecting the practice of medicine, than at the present. I am merely calling attention to a few of them for the purpose of giving a word of warning. The American Medical Association, through its House of Delegates, and its Board of Trustees, has gone into these matters with thoroughness, sincerity and unbiased interest, both to the medical profession and to the public; and the views expressed by the Association will go a long way toward molding public opinion toward a fair and proper understanding of the question at issue. It therefore behooves us to be informed, and by all means not to be swept off our feet by the propaganda that is being put out by politicians favoring this or that pet measure. The ten principles enunciated at the Cleveland meeting of the American Medical Association constitute fair and proper criteria with which to consider any proposed medical legislation. If due time is allowed in which to allow the crystallizing of the public opinion on this question, right will prevail. The far reaching influence of the individual doctor's expressed views on any question of this sort has an incalculable effect on his immediate surrounding friends and clientele, and this influence should be exerted because his friends expect it and look to him for the advice which will bring order out of chaos.

I do not wish to dwell unduly on the matter of medical legislation, for the reason that we have in waiting a most able and instructive report from the Committee on Legislation and Medical Economics soon to be presented.

A proper gesture at this time by the members of the medical profession would, in my opinion, be the regulation as far as possible, of the medical and surgical fees to be charged by members of the profession. It is a well known fact that there is no uniformity in the matter of fees among doctors, and the public cannot understand why this is. Some are excessively high for a given service and some are too low. A getting-together in some way of the members of the profession, by which they can show to the public that the fees to be charged are reasonable and right and are in conformity with the quality of the service rendered and the ability of the patient to pay, is indicated.

#### FEE-SPLITTING

That this evil exists goes without saying. To what extent we have no way of knowing. Much has been written and said condemning the practice, but nothing has been done that stops it or even mitigates it. It is a most unfair and unjust practice, in which no ethical doctor would engage. It is a form of bootlegging—bootlegging in human flesh, if you please. The bootlegger in liquor is deemed a man of low class and a lawbreaker, which he is. The bootlegger in human flesh is the greatest criminal. The liquor bootlegger is apprehended sometimes and punished. The human flesh bootlegger is never apprehended, and as such is never punished. If there has been action taken against a violator of this law in Alabama, I have no knowledge of it. Our statutes are couched in very strong language concerning this crime, but the leggor and the leggee ply their trade unmolested, and in defiance of the law, as if to facetiously say, "Who's afraid of the big bad wolf." We had as well have no law on the books on this question. Can not the Association adopt some measure by which teeth can be put into the law? Those who engage in this kind of law violation should be punished. Of course we need not be concerned here about the huge masses of brimstone that will be consumed in the world to come, in giving these fellows a just recompense for selling and buying patients or of bootlegging in human flesh. Equally reprehensible are the abortionist and the fetal murderer. At present the only mode of procedure lies with the County Board of Censors. This Board meets with signal failure largely because the crimes are in their own household, and no one will venture to prosecute. Also, there is lack of means with which to pay a detective, who really is the one man capable of apprehending these evil doers.

I recommend that this matter be referred to the Committee on Legislation and Medical Economics, and under the advisement of the Board of Censors, with instructions to try to work out some method or methods of legislative procedure that will be effective in apprehending and punishing those who are guilty.

THE JEROME COCHRAN LECTURE

This established and time-honored custom of the Association, of having delivered on Wednesday at 11 o'clock A. M. of each annual meeting of the Association a lecture on some scientific subject by some outstanding man of the profession, in honor of the founder of the Medical Association of the State of Alabama, should be perpetuated. It is a fitting tribute to Dr. Jerome Cochran.

Because it is a signal honor to the person whom the President of our Association may select, it has heretofore been a more or less easy task to secure a proper man to deliver this lecture. The trend of time, and the conditions that now prevail, however, have so changed that it is now not an easy matter to interest a man for this place, unless remuneration is offered. At least a sufficient amount to cover the traveling expenses of the lecturer to and from the place of meeting should be available. Men in the past have willingly contributed to our Association with splendid spirit, by coming to our meetings and filling this place of honor. I believe the time has come, however, when custom will say a change is needed. It may be possible after several trials to induce a man to pay his own expenses and come to our meetings, purely as a contribution to us and the profession to which he belongs, but such men are getting fewer and the majority of men leading very busy lives feel that their time is too much taken up to justify this contribution; and, besides, other Associations are leaning more and more toward allowing remuneration for at least traveling expenses.

My distinguished predecessors have seen fit to recommend that this Association pay the expenses of the man selected to deliver the Jerome Cochran Lecture. With the adverse report of the Board of Censors already made on this question before me, I, in all sincerity, again recommend that these expenses be allowed by the Association. It is getting more and more embarrassing to each succeeding President to be refused by the man he may wish to select for this honor and for the honor he may bestow on this occasion, and I trust that the Board of Censors will give this matter very serious consideration in the light of existing circumstances and save your future Presidents the humiliation they are destined to incur unless this recommendation is concurred in. It was suggested and indeed recommended to set aside the sum of one hundred dollars each year for the remuneration of the speaker for this occasion. If the Board of Censors think that this would be a better plan than to merely pay the speaker's expenses as per the bill to be rendered by such speaker, this plan could be adopted.

DELEGATES TO AMERICAN MEDICAL ASSOCIATION

I also recommend for your consideration that the expenses of the delegates to the American Medical Association be paid out of the funds of the Association each year for such regularly appointed delegates, or their authorized alternates as may attend the Association.

This in my opinion should be done for several reasons: First, to insure the attendance of the delegate; Second, to induce the delegate to dis-

charge his obligation to the Association, and; Third, because most every other State pays the expenses of its delegates.

It is to be regretted that our own State's representation in the House of Delegates has fallen off. This is because of the falling off of the membership in our own State Association. The County Medical Societies must be very derelict in their duties to their members not to enlist and hold the interest of the doctors of their counties. No doctor can keep up with the profession of medicine, unless he is a member of his county society. No doctor can afford to do without the Journal of our State Medical Association. Of all times in the world when the doctors of Alabama, as well as all other states, ought to rally to the support of organized medicine, it is now when sinister influences are trying to disrupt medical practice in America, and establish therefor, Socialism.

Therefore let me impress on the mind of every member of the Medical Association of the State of Alabama the importance of supporting your Association, and inducing all other doctors to do so; not merely for the sake of being loyal to the profession of medicine, but also for the benefits to be derived by virtue of this membership in scientific attainments and in keeping abreast of the times. Indispensable also is the Journal of the American Medical Association. Not to take the Journal and read it is to be out of harmony with organized medicine in America.

Concluding my message, I desire to express to the Association my very high appreciation for the confidence and esteem shown me as your President, and it affords me great happiness to have arrived thus far on the way in my ministrations, with so great a degree of harmony among the members of the Association, and with such unstinted cooperation, and with such a spirit of earnestness and hopefulness for the success of the Association and the betterment of humanity.

The President's message was referred to the Board of Censors.

The joint report of the Vice-Presidents, rendered by Senior Vice-President, Dr. G. W. Williamson, and referred to the Board, follows:

*Report Of The Vice-Presidents*

The Vice-President of the Southeastern Division held two meetings, one at Troy on September 11; the other at Dothan on November 9. Ten papers were read. The attendance was good. Owing to ill health, the Vice-President was not able to visit many of the counties in his division.

Dr. A. B. Coxwell, Vice-President of the Southwestern Division, held one meeting during the year—at the home of Dr. D. R. Nettles, Peterman, on August 13th, who, with Mrs. Nettles, served a buffet supper. The Vice-President records that one month later the Division was shocked to learn of Dr. Nettles' death.

Dallas and Mobile Counties seem to be the most active in the district. The former, with 38 mem-



bers and three eligible non-members, has the highest percentage of membership.

The Northeastern Division, Dr. W. M. Salter, Vice-President, has been divided into four subdivisions by authority given the Vice-Presidents at the Association's last annual meeting. Subdivision 1 is composed of DeKalb, Jackson, Madison and Marshall Counties, with Dr. Rayford Hodges, Scottsboro, in charge. Subdivision 2 is composed of Blount, Cherokee, Etowah and St. Clair Counties, with Dr. E. H. Cross, Gadsden, in charge. Subdivision 3, composed of Calhoun, Cleburne, Shelby and Talladega Counties, is in charge of Dr. B. B. Warrick, Talladega. Subdivision 4, composed of Chambers, Clay, Coosa, Randolph and Tallapoosa, has Dr. G. W. Bonner as Sub-Chairman.

Three meetings were held in the Division: Huntsville, October 19; Talladega, January 15; Gadsden, February 13. Thirteen papers were presented to an attendance of 136 physicians.

It is the purpose of the Vice-President, with the aid of his subdivision assistants, to hold two meetings per year in each quadrant.

It is the intention of Vice-President Salter to bend every effort looking to greater interest in organized medicine during the ensuing year.

The Secretary presented the following report which President Cunningham referred to the Board of Censors:

### *Report Of The Secretary*

The Secretary begs to submit the following report: Since the last meeting Dr. Elisha McCullough Harris, Russellville, and Dr. Oscar Suttle Justice, Central, Life Counsellors; and Dr. M. E. Doughty, Slocomb, Active Counsellor, have died. To the Book of the Dead have been transferred, also, Members N. R. Phillips, I. M. Gravlee, John A. Kendrick, Arthur Johnson, Frank E. Christopher, William Henry Crook, James E. Terry, Jesse Gulledge, D. P. Mixson, W. L. Stubbs, J. S. Winters, W. B. Turner, William S. Hannah, H. L. Castleman, W. M. Peters and M. L. Stephens.

The membership of the Association, as enrolled April 1, 1935, is 1,449—the number recorded in my last annual report to you. The total number of physicians in Alabama, according to the rolls of County Medical Societies, is 1923.

At the last meeting, eight members were elected to the College of Counsellors. All have accepted the honor and at the proper time should be placed upon the roll of Active Counsellors. Vacancies in the College that will present at this session will be announced, according to custom, at the close of tomorrow morning's meeting. Let it be sufficient for your Secretary to state now that there will be clear vacancies to be filled in Districts 1, 3, 8 and 9.

Delegates' credentials are in hand for Drs. J. N. Baker and A. A. Walker, who are to represent this body at the approaching meeting of the American Medical Association, whereupon their terms expire. It will be the duty of the incoming President to appoint their successors, who will serve during

the 1936 and 1937 sessions of the National organization. It will be his privilege also to fill vacancies as follows on the Committees of the Association:

Committee On Mental Hygiene—One to succeed Dr. J. G. Bedsole.

Committee On Maternal And Infant Welfare—One to succeed Dr. T. M. Boulware.

Committee On Prevention Of Cancer—One to succeed Dr. J. P. Chapman.

Committee On Prevention Of Blindness And Deafness—One to succeed Dr. H. F. Martin.

The following officers are to be elected at this meeting: A president, a vice-president for the Southeastern Division, two censors for five years to succeed Drs. E. V. Caldwell and S. A. Gordon, whose terms have expired; and one censor for one year to succeed Dr. M. Y. Dabney, whose ad interim appointment as successor to Dr. J. S. McLester, resigned, has expired; and counsellors as follows: Four to succeed J. S. Crutcher, W. B. Hendrick, A. D. James and H. S. Ward, who are to be elevated to Life Counsellors; one to succeed M. E. Doughty, who is deceased; one to succeed C. R. Whitman, who is delinquent in attendance; seven to succeed E. B. Dailey, Douglas L. Cannon, F. G. Granger, W. T. Miller, W. E. Noel, James Tankersley and A. L. White, whose first terms of seven years have expired; and four to succeed S. L. Burdeshaw, V. J. Gragg, N. G. James and J. B. Moxley, whose second terms of seven years have expired.

Your Secretary has responded to all calls for information, has edited and supervised the distribution of The Journal and Transactions, and has endeavored to perform, in an acceptable manner, all the duties pertaining to the office.

Expense incident thereto constitutes a part of the Treasurer's report.

To all who have cooperated with him in the discharge of his responsibilities, the Secretary expresses his appreciation.

Respectfully submitted,

Douglas L. Cannon, Secretary.

The Treasurer of the Association, Dr. J. U. Ray, rendered the following report which was referred to the Board.

### *Report Of The Treasurer*

Association Year 1934-1935

#### FINANCIAL STATEMENT

#### GENERAL ACCOUNT

##### *Receipts*

Cash brought forward from last report .....	\$ 8,041.77
Dues from 101 Counsellors (Exhibit A) .....	1,010.00
Dues from county societies (Exhibit B) .....	3,771.00
Delegate fees .....	528.00
Miscellaneous receipts .....	116.46

*Disbursements*

Badges .....	\$ 33.81	
Brown Printing Co., Station- ery .....	163.29	
Brown Printing Co., Pro- grams .....	163.73	
Brown Printing Co., Transac- tions .....	635.62	
Postage—Secretary's office ..	124.79	
Treasurer's office ..	21.11	
Salaries—Secretary .....	600.00	
Treasurer .....	300.00	
Premium on Treasurer's bond ..	25.00	
Committee expense .....	25.22	
State Board of Health—Sta- tionery .....	7.15	
Special clerical assistance .....	37.50	
Expense of division meetings ..	40.00	
Floral designs .....	10.50	
Directory—A. M. A. ....	12.00	
Birmingham Reporting Co., Annual Meeting .....	150.00	
Subscriptions to Journal (members and counsellors) ..	2,716.00	
Miscellaneous supplies .....	4.15	
	<hr/>	
	\$13,467.23	\$ 5,069.87
Balance cash on hand .....	8,397.36	
	<hr/>	
	\$13,467.23	\$13,467.23

*Recapitulation*

Cash on hand .....	\$ 8,041.77	
Total receipts for year .....	5,425.46	13,467.23
	<hr/>	
Total disbursements for year .....	5,069.87	
	<hr/>	
Balance cash on hand .....	\$ 8,397.36	

*Exhibit A*

Counsellors and Counsellors-Elect Remitting Dues

Abernethy, F. L.	Dabney, M. Y.
Acker, P. J. M.	Doughty, M. E.
Alison, J. F.	Dowling, J. D.
Alison, S. B.	Dupree, M. W.
Anderson, T. J.	Eskew, M. H.
Ashcraft, V. L.	Garber, J. R.
Bailey, E. B.	Gilder, G. S.
Beard, R. B.	Gragg, V. J.
Bedsole, J. G.	Granger, F. G.
Burdeshaw, S. L.	Greer, W. H.
Caldwell, E. V.	Gresham, W. A.
Cannon, D. L.	Hagood, M. H.
Carter, W. R.	Hatchett, W. C.
Chandler, J. C.	Hayes, C. P.
Chenault, F. L.	Hayes, J. P. (33-35)
Cowles, W. L.	Hendrick, W. B.
Craddock, F. H.	Hill, R. L.
Crutcher, J. S.	Hollis, J. S.
Cryer, G. A.	Hough, J. S.

Howell, W. E.	Ralls, A. W.
Hubbard, T. B.	Redden, R. H.
Jackson, A. A.	Rountree, W. S.
James, A. D.	Rucker, E. W.
James, N. G.	Salter, W. M.
Jordan, S. E.	Scott, W. F.
Kirkpatrick, S.	Searcy, G. H.
Leach, Sydney	Searcy, H. B.
Lester, B. S.	Shaddix, M. L.
Lewis, W. A.	Shamblin, J. L.
Lightfoot, P. M.	Shropshire, C. W.
Long, Clarence	Sledge, E. S.
Lull, Cabot	Smith, G. R.
Martin, J. A.	Smith, R. A.
Martin, J. C.	Speir, P. V.
Mason, E. M.	Tankersley, James
Mason, J. M.	Taylor, W. R.
Mayer, K. A.	Thomas, E. M.
McAdory, E. D.	Waldrop, R. W.
McCa'l, D. T.	Walker, A. A.
Moore, D. S.	Walls, J. J.
Moore, G. H.	Walsh, G. H.
Moxley, J. B.	Ward, H. S.
Newman, S. H.	We'sh, S. H.
Noel, W. E.	White, A. L.
Noland, Lloyd	Whitman, C. R.
Nolen, J. A. M.	Wilkerson, F. W.
Oswalt, G. G.	Williams, M. J.
Parker, L. D.	Williamson, G. W.
Perdue, J. D.	Wood, W. D.
Price, A. B.	Wright, D. H.

*Exhibit B*

County Society Dues Collected at 1934 Meeting

Autauga .....	\$ 12.00
Baldwin .....	27.00
Barbour .....	33.00
Bibb .....	27.00
Blount .....	42.00
Bullock .....	27.00
Butler .....	42.00
Calhoun .....	111.00
Chambers .....	48.00
Cherokee .....	12.00
Chilton .....	27.00
Choctaw .....	27.00
Clarke .....	24.00
Clay .....	21.00
Cleburne .....	9.00
Coffee .....	30.00
Concuh .....	21.00
Coosa .....	15.00
Covington .....	42.00
Crenshaw .....	33.00
Cullman .....	33.00
Da'e .....	30.90
Dallas .....	114.00
DeKalb .....	48.00
Elmore .....	45.00
Escambia .....	33.00
Etowah .....	138.00
Fayette .....	18.00
Franklin .....	48.00
Geneva .....	42.00
Greene .....	12.00



Hale	15.00	Fayette	8.00
Henry	15.00	Franklin	8.00
Houston	66.00	Geneva	8.00
Jackson	42.00	Hale	8.00
Jefferson	840.00	Henry	8.00
Lamar	30.00	Houston	8.00
Lauderdale	63.00	Jackson	8.00
Lawrence	27.00	Jefferson	28.00
Lee	48.00	Lamar	8.00
Limestone	27.00	Lauderdale	8.00
Lowndes	12.00	Lawrence	8.00
Macon	27.00	Lee	8.00
Madison	60.00	Limestone	8.00
Marengo	33.00	Lowndes	8.00
Marion	30.00	Macon	8.00
Marshall	48.00	Madison	8.00
Mobile	264.00	Marengo	8.00
Monroe	36.00	Marion	8.00
Montgomery	207.00	Marshall	8.00
Morgan	60.00	Mobile	12.00
Perry	24.00	Monroe	8.00
Pickens	30.00	Montgomery	16.00
Pike	54.00	Morgan	8.00
Randolph	36.00	Perry	8.00
Russell	12.00	Pickens	8.00
Shelby	45.00	Pike	8.00
St. Clair	36.00	Randolph	8.00
Sumter	30.00	Russell	8.00
Talladega	54.00	Shelby	8.00
Tallahapoosa	33.00	St. Clair	8.00
Tuscaloosa	114.00	Sumter	8.00
Walker	96.00	Talladega	8.00
Washington	12.00	Tallahapoosa	8.00
Wilcox	30.00	Tuscaloosa	8.00
Winston	21.00	Walker	8.00
		Washington	8.00
		Wilcox	8.00
		Winston	8.00

Colbert did not remit society dues.

### Exhibit C

#### Delegate Dues Collected at 1934 Meeting

Autauga	\$ 8.00
Barbour	8.00
Bibb	8.00
Blount	8.00
Bullock	8.00
Butler	8.00
Calhoun	8.00
Chambers	8.00
Cherokee	4.00
Chilton	8.00
Choctaw	8.00
Clarke	4.00
Clay	4.00
Cleburne	4.00
Coffee	8.00
Colbert	8.00
Conecuh	8.00
Coosa	4.00
Covington	8.00
Cullman	8.00
Dale	8.00
Dallas	12.00
DeKalb	8.00
Elmore	8.00
Escambia	8.00
Etowah	8.00

Baldwin, Crenshaw and Greene did not remit dues for delegates.

Cherokee, Clarke, Clay, Cleburne and Coosa remitted for one each.

### JOURNAL ACCOUNT

April 1, 1934-March 30, 1935

#### Receipts

Balance on hand	\$1,266.71	
Advertising	2,170.78	
Journals sold	1.00	
Subscriptions—Members	2,716.00	
Non-Members	9.00	\$6,163.49

#### Disbursements

Cost of printing	\$4,189.78	
Salaries—Ohme	420.00	
Ray	100.00	
Wilkerson	300.00	
N. R. A. Code Assessment	10.00	\$5,019.78
Balance cash on hand	1,143.71	
	\$6,163.49	\$6,163.49

#### Recapitulation

Receipts	\$6,163.49	
Disbursements		\$5,019.78
Balance cash on hand		1,143.71
	\$6,163.49	\$6,163.49

The President next called for reports of committees.

## REPORTS OF COMMITTEES

### *Committee Of Publication*

Fred Wilkerson, Chairman

It will be sufficient for the Committee to report the following:

1. The Journal entered its fourth year on July 1, 1934, thus adding another milestone to a career of usefulness as a medium of expression for the Association.
2. Advertising therein during the six-months' period ending with the March 1935 issue showed an increase of 22% over the preceding six months.
3. The Committee of Publication distributed copies of the proceedings of the 1934 meeting to all members of the Association, the proceedings being a reprint from the Journal.
4. The financial aspects of these items have been dealt with in detail in the Treasurer's report.

### *Maternal And Infant Welfare*

A. E. Thomas, Chairman

#### A. MATERNAL WELFARE

The Committee on Maternal Welfare during the past year has confined its activities to the program that was outlined in its original report. We are glad to say that we have succeeded in carrying out most of the recommendations that were made last year. At that time we were making every effort to organize prenatal clinics with the facilities of the Federal Government at hand. One clinic was organized and has delivered around one hundred babies and has in attendance around one hundred patients. With the new Public Works program going into effect in the near future there is a possibility that at certain strategic centers obstetric clinics can be organized in conjunction with general hospitals. We understand that this money must be spent in constructive projects. This being the case, it is up to the medical profession to see that efficient medical care (that is, in the form of hospitalization) is available for all citizens. Our State Health Department has in mind such a program.

The Committee wishes to thank Mr. Leonard V. Phelps, Director of the Bureau of Vital Statistics, for the cooperation rendered in carrying out our program for the last year.

The maternal death rate for the United States in the Birth Registration Area in 1933 was 6.2, and in Alabama 7.2. The Alabama rate is only slightly lower than that of the preceding year. There has been a constant decrease in the annual number of deaths from puerperal albuminuria and eclampsia for 1929 to 1933. It is of interest to note that if the same maternal mortality rate from eclampsia had prevailed in 1933 as in 1929, there would have

occurred 210 such deaths, indicating a saving of seventy-seven lives. Similarly, a saving of fifty-one lives was effected from puerperal septicemia, and eight from other puerperal causes, or a total of 136 lives from all puerperal causes.

The comparability of maternal mortality rates in the United States and certain foreign countries in the last few years reveals that the United States maternal mortality has exceeded every country except Scotland, and it also further reveals that, irrespective of what method of assignment is used, the United States still enjoys the unique distinction of first place. Rates for the United States, estimated in accordance with the assignment procedure of the respective countries, are in every instance, except Scotland, in excess of, and are in five instances more than double, the official rates of the countries themselves. No matter what method of procedure is used, the United States retains an exceedingly high rate as compared with other countries.

The abortion problem remains unchanged. Mr. Phelps, the State Statistician, does not think that it would be practical at this time to request detailed information concerning abortion on the stillbirth certificate. He does feel that we should add to the regular death certificate one request for additional information, namely, in the case of infants dying less than twenty-four hours following birth. In such cases it would be desirable to know whether the birth was premature or not.

Mr. Phelps has considered the stillbirth certificate, or single certificate, and has come to the conclusion that it would be most desirable to adopt such a certificate. In this way a stillborn child, previously registered as a birth and also as a death, would continue to be registered as such upon a combined birth and death certificate instead of on a separate birth and death certificate. This step is being taken to improve registration of this type birth and at the same time to decrease the number of certificates that the doctor is required to fill out. The success of this procedure depends entirely upon your cooperation. These certificates will be sent you as soon as it is possible to complete necessary legislation, printing, etc.

The midwife problem becomes more pernicious as the years roll by. We reported last year that the number of mothers taken care of by midwives was on the increase, and we regret to say that it continues to increase. In 1933, 23,158 mothers were delivered by midwives and in 1929, 18,202, or an increase of almost 5,000 or twenty-seven per cent. There were 3,373 white mothers that received obstetric care from midwives in 1929 and 5,794 in 1933, representing an increase of 2,421 or seventy-two per cent. Correspondingly, there were 6,754 fewer white mothers cared for by physicians, or a reduction of eighteen per cent. The proportion of white mothers hospitalized has remained practically constant (1929-1933) at approximately eleven per cent. It has been said that the midwife problem is a necessary evil, but when there are 6,000 white mothers that are forced to look to this blind empirical method of obstetric care then it becomes more than an evil.



Midwifery is not confined to colored midwives. Every physician should know that permitting a woman to pound the head on the pelvic floor for hour after hour is midwifery by omission. Doing routine version and extraction is meddlesome midwifery, unscientific and pernicious. Blasting the baby through the birth canal with solution of pituitary is meddlesome midwifery. Cesarean section improperly selected is an exhibition of the lowest obstetric intelligence, of which even a midwife would be ashamed. Midwives did cesarean section in the fifteenth century.

In order to curb the activities of the midwife, your Committee recommends that every county health officer be instructed by the State Health Department to seek out every white pregnancy and that it be their further duty to see that they receive medical care.

Probably no single movement has stimulated as much interest as Dr. McCord's lectures, which were of inestimable value. The Health Department will repeat the course as soon as it is practicable.

Your Committee will try to furnish interesting obstetric articles in the State Journal from time to time. We also feel that one entire program of each county medical society should be devoted to obstetrics, with some outstanding man presenting same.

Obviously the responsibility rests on no single person, but rather on the doctor, the patient, the community and the health department in that community. In view of the fact that a vast amount of the responsibility rests upon the patient and the public, the Committee proposes to again carry out the program in Alabama as outlined by Maternity Center in New York City.

The present is an era of prophylaxis; the aim must be constructive regulation of physiologic function as much as the prevention of pathologic conditions. We doctors have been taught the beauties of normal obstetrics, the principles of asepsis and the principles of intelligent expectancy, trusting much to nature, and if we would only practice them there would soon be a reduction of maternal mortality and morbidity. In the meantime, the medical profession can hold the vision of its ideals and struggle to attain them, and it will attain them only through education of the doctors and the public.

#### *Recommendations*

1. That every organized county cooperate with your State Committee in putting over "Mother's Day Program."
2. That, in order to curb the activities of the midwife, every county health officer be instructed by the State Health Department to seek out every white pregnancy and that it be their further duty to see that they receive medical care.
3. That every county health officer, acting in cooperation with the local doctors, be instructed by the State Health Department to organize prenatal clinics that will operate in conjunction with new county hospitals that have been built

and that are to be constructed in the near future. The State Committee will furnish necessary information.

4. That one day be set aside by each county medical society for the presentation of obstetric papers, cases, etc.

Concerning the maternal mortality study recommended at the last session, I wish to say that with reduced funds and personnel it has not been possible for the Bureau of Vital Statistics to carry on the work as it should be done. Relatively few of the schedules that have been sent out have been returned. Unless better cooperation can be had on the part of the attending physician, it will be necessary to refrain from carrying on this important study.

#### B. INFANT WELFARE

Infant welfare work in Alabama is being done by the Division of Nursing of the State Department of Health and by the Department of Child Welfare. While not directly related, these agencies work together in harmony and carry on their work through the various county units. In this way, the various children's institutions are well supervised. Although handicapped by the lack of sufficient funds and nurses, the Division of Nursing is doing splendid work in the spread of health education, especially in the urban centers. In the larger cities free children's clinics are maintained for the indigent and near-indigent.

There seems to be developing an increased interest in child welfare throughout the country, especially in the rural areas, fostered by the American Academy of Pediatrics. This is manifested by pending federal legislation which will materially supplement the funds now available for the above purposes.

At the present time the State Department of Health is planning to give a postgraduate course of lectures in pediatrics in several of the smaller communities during the summer. These lectures will be given by a pediatrician from out of the State and will be under the auspices of the Children's Bureau in Washington and in cooperation with the State Department of Health. These lectures will be similar to those given in obstetrics in the past. If these lectures do materialize, you are urged to avail yourselves of this opportunity to receive the latest information on infant and child care and are urged to cooperate to the fullest with the visiting pediatrician.

We would like to call your attention to May 1st, which has been designated as National Youth's Health Day. This day is being sponsored by many civic organizations. We urge you to make this an important day in your community. While you should include the entire youth period in your program, your committee is interested chiefly in the infants. This day will give you an excellent opportunity for checking your patients as to immunization against the various communicable diseases. Have all of your patients over six months of age been inoculated against diphtheria and vaccinated against smallpox? This year, May 1st, has



been particularly designated as "Diphtheria Immunization Day". Therefore you should make an extra effort to cooperate with this program and should see that all of your patients are immunized.

It is now being recommended that all babies be inoculated at eight months of age against whooping cough with the new pertussis vaccine. While your committee is not yet willing to promise absolute immunity in every case inoculated with the new Sauer pertussis vaccine, we feel that the following statement made by Huenekens of Minneapolis at the meeting of the American Academy of Pediatrics in Cleveland in June 1934 should be borne in mind: "Before we can accept Sauer's work as a final proof of the possibility of establishing permanent immunity to pertussis, we must have observations on a larger number of children for a longer period of time, and the work must be confirmed by independent observers. But, in the meantime, Sauer has presented evidence enough so that the conscientious physician is justified in advising the procedure for his patients, provided that he warns them that final proof is lacking." Since the above time additional data from independent observers have been accumulated tending to further prove the efficacy of this vaccine. Since the vaccine appears to be harmless, the infant should be given the benefit of the doubt.

Some physicians seem to hesitate to urge the various immunization procedures, feeling that they are commercializing medicine. This is the wrong attitude. During the past year, a number of mothers have asked, "Why didn't you 'phone me about the new whooping cough vaccine?" Surely your patients will have the same attitude. They look to you for counsel and advice.

May 1st will also serve as an excellent opportunity for you to advise your mothers as to care during the approaching summer—such as proper care of food, refrigeration and protection from flies; the use of boiled or pasteurized milk; pure water, etc.

In closing this report we would like again to urge you to cooperate in the observance of National Youth's Health Day and to extend your fullest help to the visiting pediatrician this summer.

### *Committee On Mental Hygiene*

F. A. Kay, Chairman

The Committee on Mental Hygiene again attempts to give an account of its work for the past year and again it is unable to point to monumental achievements. The work of this Committee should, we believe, be largely in the dissemination of information. We feel that it should be a clearing house for information on psychiatry and mental hygiene, a stimulus to those whose works and interests border on our doorstep and a counsel and a friend to social and welfare agencies and societies in this State who look to us for cooperation, and, I might add, possibly, leadership. It is in this field that we have, to a large extent, occupied our time and efforts.

We have lent aid, advice, encouragement and cooperation to such organizations including, more

particularly, the Alabama Society for Mental Hygiene.

Last year, chief among our recommendations was one urging a more comprehensive sterilization law than the one already on our statute books which affects only inmates of the Partlow State School for Mental Deficients. In casting about for ways and means of presenting this to the State Legislature which meets this year, we found, to our great happiness, a man and a mind peculiarly suited to this important problem.

At the very time that we were beginning to crystallize our plan of attack we found that Dr. W. D. Partlow, well known to this Association and to this State, was already drawing up a bill to be presented to the Legislature.

In this bill we found every sane idea concerning sterilization of the heritable unfit covered; every necessary safeguard met, and we offered him our aid and cooperation in putting over this proposed law.

In this behalf we have sent letters, copies of the law and information on hereditary mental disease and mental deficiency to every county medical society in the State, urging its active support in seeing this bill through. As individual committeemen we have, wherever it has been possible, sought to convert legislators to the economic and social possibilities of such an act.

With the leadership and experience of Dr. Partlow, and the united help of the medical profession of this State and of all those interested in social problems, we trust, that when the Legislature reconvenes on April thirtieth the bill will become a law.

We are still mindful of the fact that our main support in mental hygiene work lies in the interest and effort of the practicing physician. It is he who sees the beginnings of nervous and mental disease; it is he who offers the first advice and gives the first treatment.

More and more the medical profession is coming to view the patient as an integrated system of tissues, organs and functions, possessive of a personality. Medical literature of the past few years is replete with reports on the influence of nervous and mental states on the functions of the various organs of the body and, conversely, also of the influence of malfunctioning organs on the brain. Man must be viewed as a whole, no one component separated from the other, if we are to have a clear understanding of our problems and our mission.

The administration of a sedative will not long relieve the headache of the little woman who is blindly striving to adjust her life to the constant bickerings of an uncongenial mate. The removal of an appendix or a gallbladder will not long subdue the pain that cries out from a hypochondriacal belly, ill conditioned by an early environment filled with conflict and family discord. Unless we recognize these causal relations we are but scratching the surface and sometimes, in our therapeutic efforts, even adding insult to injury.

It is on these grounds that we admonish all county societies, in arranging programs, to include in

the scheme of things a bit of psychiatry and an abundance of coordinating information.

As to specific recommendations for the next year we have none. The time is not yet here when we can ask for the establishment and financial support of psychiatric and child guidance clinics in the more populous centers of the State. That time will come; meanwhile we must meet our simple, close at hand problems, preserving always that idealism which is so necessary to progress.

### *Prevention Of Cancer*

K. F. Kesmodel, Chairman

The Committee on Prevention of Cancer has continued its work as outlined last year. County Medical Societies and other medical groups have asked for and received material or talks on some phase of cancer control. It is the desire of the Committee that each County Medical Society have at least one paper a year on some phase of cancer. This Committee is ready to furnish the material or the speaker for such a topic.

We of the Committee feel the time has arrived to extend our program. At the request of the President, the work thus far has been confined to the medical profession. We feel that the time has arrived to present this subject to lay groups. It is the desire of the Committee to have programs presented to various lay organizations, professional (non-medical) groups and colleges. We wish to use the daily paper, periodicals and the radio in addition to the talks given. All material used in these presentations will be submitted to the Committee on Public Relations before they are released. This work has already been started in other parts of the South and as requests for talks on cancer have already been requested, we would like to start in Alabama.

The Committee is anxious for each County Medical Society to appoint a local cancer committee. It is believed much better results will be obtained if the local committees will conduct the programs given. The State Committee stands ready to give assistance.

There are still unlicensed individuals who are treating cancers with topical applications and who charge the patients for these treatments. It is earnestly requested that all physicians who encounter such report these persons to the County Health Officer, who, in turn, should see that these unlicensed practitioners are prosecuted.

This Committee wishes to express its sorrow in the loss of one member who died, Dr. I. M. Gravlee. His untiring efforts and his constant application have done much to help the progress of the work of this Committee.

### *Committee On Legislation And Medical Economics*

John A. Martin, Chairman

The Committee on Legislation and Medical Economics has now been in existence two years. During this time its efforts have been spent largely in

studying the economic conditions and problems confronting the medical profession of this State. Much time has been given in attempts to solve some of these more urgent problems. Personal studies by a representative of our Association have been made in each county. Much information and understanding of mutual problems have been acquired which will help in the solution of future administrative procedures.

The specific reactions of the Alabama Relief Administration with reference to medical aid for those on relief have been: (1) The altruistic motives prompting the medical profession through many generations to render medical services to the indigent without charge have caused laymen to expect them to continue, and the rendering of these services is different from that of dealers selling goods and having to pay cash for new supplies to replenish their stocks; (2) Funds for medical services are limited and hospitalization funds prohibited; and (3) Some physicians have been prone to abuse privileges to the extent that rules and regulations governing authorization for calls became necessary in order to conserve funds.

On the other hand, the physicians in general were not pleased with the fee schedule, inequalities in securing authorization to treat those in need of medical service, lack of hospitalization, fear of state medicine, and the interference of the patient-physician relationship by lay people.

With the present trend of the times, if this Association is to make a united effort to keep up with the rapidly changing conditions, this or some other committee must make practical use of our information and actively mobilize the profession so that any new plan or policies evolved for the distribution of medical services will be shaped by, and have the approval of, the organized profession. The profession in Alabama has, thus far, escaped many problems confronted by other states; however, this does not mean that we may continue to do so.

It requires much time to keep up with all that is happening in the world—medically speaking. One serving on this Committee in active practice must, therefore, sacrifice something for the Association. Realizing this fact, we urge that only members of the Association who are willing to give time and thought to the work of this Committee should be appointed to it. This will save embarrassment to those members who cannot afford to give time from their practice and to those of the Committee who are trying to carry on the work properly.

Methods of practice in this and other states are so variable that it would be exceedingly difficult for this State Committee to draw up, in detail, measures controlling medical practice which would be applicable to all constituent counties. This Committee feels that the State Association should be very careful in advocating that this or any other committee become an active lobbying body. We do feel that this Committee should constantly study all proposed legislation, both local and national, and prevent enactment of anything detrimental to the profession. This has been the policy in our legislative activities.

It would appear that much of the criticism of present medical practice comes largely from the



activities of certain non-medical foundation workers who, with great wealth behind them, set out to make studies and then are prone to become political protagonists for the general adoption by legislation of the results of their studies. Neither the public, the lay press, or widely scattered communities have registered any profound protest.

After a careful study of all bills, plans and schemes advocating a change in medical practice other than those formulated by medical groups, particularly to people in the lower income bracket, we have not found any plan which offers a marked improvement over the present medical service the people are receiving. All plans which seek to increase the remuneration of the doctor also include the dispensing of large amounts of government money by a third party with eventual lay dictation to physicians. Politics would thus inevitably come to play an important part. Any scheme of medical practice which involves politics with its tendencies to graft and other objectionable features should be strenuously opposed.

Before a distribution of medical cost becomes applicable, there must be a change in human nature to such a marked degree that no person shall mind paying for another's sickness, real or imaginary. Such an idea is foreign to the present thoughts of the average citizen. The poorer the person, the more altruistic spirit he shows.

One hundred per cent (100%) of the people sooner or later have sickness; yet seventy-five per cent (75%) refuse to save for sickness. When people who can well afford it fail to have periodic health examinations or to have their children protected against communicable diseases, in spite of the educational facilities now available to all, how can we expect people of low income to suddenly develop a pride in physical well-being by a monthly allowance of a few cents by the government? Physicians, as a rule, have no trouble with patients who can afford to pay their bills.

The majority of communications which have been directed to this Committee have dealt with problems which are both local and state-wide. As has been stated, these problems are difficult to work out on a state-wide basis. Also, there should be some way of getting at least a majority of counties to comment on the same problem so that a majority opinion might be expressed to the Committee trying to arrive at the proper solution of the problem. We have seen instances of this sort in Association meetings before, as illustrated by illegal practitioners, contract practice, etc.

In the last analysis, every doctor in this State is interested in medical practice only in his own county or community. That is where he lives, where his friends and relatives live; where he makes his living; where he invests his savings; where he wants to practice medicine as he feels it should be done and not as he is told.

Under the present Constitution and By-Laws of the Medical Association of the State of Alabama, we believe that there are no problems confronting the medical profession in this State which cannot be satisfactorily solved. In order to reach such a satisfactory solution, every member of this Asso-

ciation must remember that he is a member of an honored profession and in his activities each day conduct himself accordingly. This means alertness and interest in all activities in his community; keeping abreast of what is going on in the State and Nation through journals, periodicals and newspapers and giving at least some of his time to work for his county medical society. Remember that other practitioners have to make their living also. We suggest that activities be decentralized as much as possible, giving due consideration to local conditions and needs, and that this Committee, with this information in hand, do its best to aid in improving the general economic conditions of the doctors throughout the State. With these thoughts in mind, this Committee suggests the following activities to be undertaken by county medical societies:

1. Membership Committee—All legally licensed practitioners should be encouraged to become members of their county society if their ethical conduct justifies. If there are any barriers to membership, such as finances or advancing years, effort should be made to remove these. In this way, pressure can be brought to bear against unethical practitioners and better coordination obtained.
2. Committee on Public Relations—Every physician who talks to any lay group should be a representative of the profession and approved by the society. This will help to create a public opinion favorable to the profession.
3. Code and Contract Committee—To see that physicians receive a fair compensation for services to corporations, bureaus, State, county or city government or insurance companies. This will include contracts, compensation and insurance fees.
4. Committee to Confer with Druggists—Much misunderstanding sometimes arising between physicians and druggists could be completely eliminated. There is unjust criticism on both sides at present. There should be a most cordial relationship and understanding between these two groups.
5. Committee on Unlicensed Practitioners—Constant, consistent pressure of the medical profession on the proper authorities will aid in driving out quackery.
6. Tuberculosis Control—A continuous stream of publicity by story, picture or talks on this subject, with cooperation of the newspapers, go far to make the citizens of each county conscious of the perils of this disease.
7. Newspaper Committee—Most people are interested in the human side of physicians' work more than anything else. This field of work has been entirely neglected by the profession in most counties. It is a fertile one and offers great potentialities.
8. Medical representation for organizations in the county which interest themselves in the care of the sick, such as (a) school boards; (b) child



welfare boards; (c) relief agencies; (d) nursing groups; (e) social workers; (f) civic clubs; (g) social welfare groups.

9. Annual public meetings sponsored by county society.

Such a program will keep every county society active. The county board of censors should review all activities, stimulate interest and coordinate activities.

The secretary of each society will then be in a position to supply this Committee with any information it desires or give the sentiment of the county society toward any problem being studied by this Committee.

We have advanced far enough in the work of this Committee to appreciate that the profession cannot protect itself without active work and expressions from the component parts of the State Association. For this Committee to render its best service to the Association, there must be close and continuing contact with each and every county medical society, so that any plans formulated will be based upon the wishes of the individual units.

#### *Recommendations*

1. That the name of this Committee be changed from The Committee on Legislation and Medical Economics to The Committee on Public Relations. This name is shorter, simpler and will amply cover all activities. It will also be a convenience to those who communicate with us.
2. That this Committee be allowed certain monies from the Association to pay the expenses of its members in attending at least one meeting per year.
3. That Vice-Presidents, in arranging district meetings, have a representative of this Committee on each district program.
4. That all State institutions that treat or care for physical'y or mentally handicapped individuals have a physician on their respective boards.

It becomes more than apparent that many agencies looking toward relief problems, especially that of sickness, are insisting that ways and means be provided for furnishing medical service to the indigent and unemployed. It is a fact that members of the medical profession of the nation recognize this problem and concur with these agencies in the opinion that provision must be made for the unfortunate in time of sickness. It has become very evident that no universal nor uniform plan can be adopted that would be suitable to the various sections of our country or even in the different localities of the same section, and that the problem of cost of medical care becomes essentially a local consideration.

There is no reason to believe that the medical profession of America, or any of its component units, will ever endorse a program that will regiment the services of physicians or interferes with the free choice of a physician by prospective patients. This is fundamental and should be faith-

fully adhered to. Inasmuch as observance of this regulation more or less precludes the practitioners of medicine from adjusting the cost of medical care according to the plan of lay and government agencies, the best alternative that the profession can offer must revolve around the cost of hospitalization.

In different sections of the United States the matter of hospital insurance has not only been given due thought, but has been put into operation. The reports of such work are available for study but like other controversial subjects one group may agree while another may dissent. There is very little question but that the case of hospitalization is an item of major proportions for the average family that may combat major illness, and it is apparent that some relief to the public may be effected by minimizing the attending expenses incurred by hospitalization.

These things being true the following resolution is offered:

#### *A Resolution*

Whereas, The present ordinance of the Medical Association of the State of Alabama looks with disfavor and probably prohibits hospital insurance, and

Whereas, The emergency of economic conditions requires and demands a readjustment and a compromise on principles that were tenable in years past, and

Whereas, There must never be an acceptance of combined hospital and medical services under any plan, therefore be it

*Resolved*, By the Medical Association of the State of Alabama, that hospital insurance that deals exclusively and only with the matter of hospitalization of the sick would be considered ethical; and be it further

*Resolved*, That any form of hospital insurance adopted by the hospitals of Alabama must be equitable to all and each hospital in the State; and be it further

*Resolved*, By the Medical Association of the State of Alabama, that hospital insurance under such guarantees shall be approved by the said Association; and be it further

*Resolved*, That any and all such plans for hospital insurance that are formulated by any one or group of hospitals be submitted for approval to the Board of Censors of the Medical Association of the State of Alabama.

The foregoing reports were each, in its turn, referred by President Cunningham to the Board of Censors.

Dr. T. K. McFatter, Dothan, presented a paper entitled "Safety of Low Cesarean Section in the Obstetric Emergency."

Dr. Eugene Thames, Mobile, read a paper on "Chronic Undulant Fever."

Whereupon, at 12:30 P. M., a recess was taken until 2:00 P. M.

**Afternoon Session, Tuesday, April 16**  
2:00 O'clock

A symposium on pulmonary tuberculosis was presented by Dr. R. Alec Brown, Montgomery, who discussed the prognosis of the disease; and Dr. J. Otis Lisenby, Atmore, who dealt with its surgical treatment.

"Skin Grafting: Its Relation to General Surgery," was the subject of a paper read by Dr. Arthur Neal Owens of New Orleans.

Drs. C. C. Perdue and Gayle Johnson, Mobile, presented a paper on "Foreign Bodies in the Food and Air Passages."

Dr. W. Hill McCaslan, Union Springs, discussed "The Nervous Child."

The afternoon session was concluded with the paper, "Deep Surgical Infections of the Neck," by Dr. T. F. Wickliffe, Jasper, whereupon a recess was declared until 8:00 P. M.

**Evening Session, Tuesday, April 16**  
8:00 O'clock

Dr. G. C. Ussery's paper on "The Status of Hysterectomy in Rural Surgical Practice" was read by title.

"Acute (Hemorrhagic) Pancreatitis" was discussed by Dr. D. C. Donald, Birmingham.

Dr. W. W. Harper, Selma, presented a paper on "The Enlarged Thymus."

The last paper of the evening was that by Dr. C. O. Lawrence, Clanton, on "The Value of Local Applications in Diseases of the Respiratory Tract."

The Association recessed until 9:00 A. M. of the second day, Wednesday, April 17th.

**Second Day, Wednesday, April 17**

The session was called to order at 9:00 A. M. by President Cunningham whereupon Dr. A. C. Gipson, Gadsden, presented a paper on "The Treatment of So-Called Colitis in Infants and Children."

"Fracture Problems" were discussed by Dr. Earle Conwell, Fairfield.

Special order for 10:30 A. M. was a paper by Dr. James S. McLester, Birmingham, President-Elect of the American Medical Association, on "Trends of Medical Practice."

The Jerome Cochran Lecture was delivered by Dr. George Henry Semken, New York City, his subject being "A Consideration of Tumors of the Breast."

Dr. Edward Nicholas DeWitt, Bridgeport, Conn., presented a paper on "Some Observations on Retinal Detachment."

The Secretary of the Association gave notice of the vacancies that would present in the College of Counsellors at the end of the present annual session and designated time and places of meeting of committees constitutionally provided to fill them.

A recess was taken until 2:00 P. M.

**Afternoon Session, Wednesday, April 17**

The Association having been called to order at 2:00 P. M. by President Cunningham, Dr. Marion T. Davidson, Birmingham, read a paper on "Some Lesser Known Manifestations of Allergy."

Dr. Edgar Burns, New Orleans, presented a paper on "Renal Calculi."

"The Treatment of Severe Preeclampsia and Eclampsia, With Particular Reference to Ephedrine" was discussed by Dr. William B. McGee, New Orleans.

Dr. C. Hal Cleveland, Anniston, presented a paper on "Chronic Hoarseness."

"Ovulation, Menstruation, and Finding the 'Safe Periods'" was the subject of a paper given by Dr. Gilbert Douglas, Birmingham.

The Association recessed for an outing on Dog River, as guests of the host society.

**Evening Session, Wednesday, April 17**

**PUBLIC MEETING**

The Public Meeting of the Association, called to order at 8:00 P. M., by the President, was addressed by Dr. Charles A. Mohr, Mobile; Dr. George Henry Semken, New York City; and Dr. Austin A. Hayden, Chicago.

**Last Day, Thursday, April 18**

The Association was called to order at 9:00 A. M. by President Cunningham, who presented the first essayist, Dr. Cabot Lull, Birmingham. Dr. Lull read a paper entitled "The Doctor in Some of His Relations to Life Insurance."

Dr. John L. Branch, Montgomery, presented a paper on "Infections of the Hand."

At 10:30 A. M. the President declared the Association in business session, sitting as the Board of Health of the State of Alabama, full record of which will appear in the August number of the Journal.

(To be concluded.)



## DEPARTMENT OF PUBLIC HEALTH

## BUREAU OF ADMINISTRATION

J. N. Baker, M. D.

State Health Officer in Charge

Synopsis of portions of the Social Security Act making Federal funds available to states for (a) services for crippled children, and (b) maternal and child health, to be administered through the Children's Bureau of the Department of Labor.

## Part I

## SERVICES FOR CRIPPLED CHILDREN

1. Amount available: \$2,850,000 for the fiscal year 1936 and each fiscal year thereafter.
2. Apportionment:  
Matched fund:  
\$20,000 to each State, District of Columbia, Alaska, and Hawaii (\$1,020,000); remainder to be divided among all the States on basis of need, taking into consideration number of crippled children in need of such service and cost thereof.  
Free fund—none.
3. Period for which funds are available:  
Funds for any fiscal year available until end of second succeeding fiscal year, but no payment is to be made out of allotment for any fiscal year until allotment for preceding fiscal year has been exhausted or ceased to be available.
4. Conditions required to be included in State plans, which shall be approved by the Chief of the Children's Bureau if they fulfill these conditions:
  - a. Financial participation by the State.
  - b. Administration or supervision of administration by a *State agency*.
  - c. Such methods of administration (other than selection, tenure, and compensation of personnel) as are necessary for efficient operation.
  - d. Such reports as Secretary of Labor may require and compliance by State agency with such provisions as are found necessary by the Secretary of Labor to insure correctness and verification of reports.
  - e. Provision for carrying out the purposes of the act.
  - f. Cooperation with medical, health, nursing, and welfare groups and organizations and any agency charged with administering a State law for rehabilitation of physically handicapped children.
5. Method of payment.
  - a. For each quarter beginning July 1, 1935 the Secretary of the Treasury shall pay to each State with an approved plan an amount, exclusively for carrying out the State plan, equal to one-half the total sum expended during such quarter. The Secretary of Labor will certify to the Secretary of the Treasury the amount to be paid to each State on the basis of (a) an estimate by the State of the total amount to be expended in such

quarter with a statement of the amount made available by the State and (b) such investigation as he may find necessary. The amount so estimated shall be reduced or increased for any quarter by any sum by which the estimate for any prior quarter was greater or less than the amount that should have been paid.

- b. The Secretary of Labor shall from time to time certify to the Secretary of the Treasury the amount to be paid to the States from the unmatched fund.
6. Suspension of payments:  
In case of failure to comply substantially with any provision of an approved State plan, determined by the Secretary of Labor, after reasonable notice and opportunity for hearing, the Secretary of Labor shall make no further certification to the Secretary of the Treasury until he is satisfied that the State is again complying.

## Part II

## SUMMARY OF PROVISIONS OF TITLE V OF SOCIAL SECURITY ACT

## MATERNAL AND CHILD HEALTH

1. Amount available: \$3,800,000 for fiscal year 1936 and each fiscal year thereafter.
2. Apportionment:  
Matched fund:
  - a. \$20,000 to each State, District of Columbia, Alaska, and Hawaii (\$1,020,000).
  - b. \$1,800,000 to be divided among the States in proportion to the number of live births.
 Free fund:  
\$980,000 to be allotted according to the financial need of the individual State as determined by Secretary of Labor taking into consideration the number of live births.
3. Period for which funds are available:  
Funds for any fiscal year available until end of second succeeding fiscal year, but no payment is to be made out of allotment for any fiscal year until allotment for preceding fiscal year has been exhausted or ceased to be available.
4. Conditions required to be included in State plans, which shall be approved by the Chief of the Children's Bureau if they fulfill these conditions:
  - a. Financial participation by the State.
  - b. Administration or supervision of administration by State health agency.
  - c. Such methods of administration (other than selection, tenure, and compensation of personnel) as are necessary for efficient operation.
  - d. Such reports as Secretary of Labor may require and compliance by State health agency with such provisions as are found necessary by the Secretary of Labor to insure correctness and verification of reports.
  - e. Provision for extension and improvement of local maternal and child health services administered by local child health units.
  - f. Provision for cooperation with medical,



nursing, and welfare groups and organizations.

- g. Development of demonstration services in needy areas and among groups in special need.
5. Method of payment.
  - a. For each quarter beginning July 1, 1935 the Secretary of the Treasury shall pay to each State with an approved plan an amount, exclusively for carrying out the State plan, equal to one-half the total sum expended during such quarter. The Secretary of Labor will certify to the Secretary of the Treasury the amount to be paid to each State on the basis of (a) an estimate by the State of the total amount to be expended in such quarter with a statement of the amount made available by the State and (b) such investigation as he may find necessary. The amount so estimated shall be reduced or increased for any quarter by any sum by which the estimate for any prior quarter was greater or less than the amount that should have been paid.
  - b. The Secretary of Labor shall from time to time certify to the Secretary of the Treasury the amount to be paid to the States from the unmatched fund.
6. Suspension of payments:  
In case of failure to comply substantially with any provision of an approved State plan, determined by the Secretary of Labor, after reasonable notice and opportunity for hearing, the Secretary of Labor shall make no further certification to the Secretary of the Treasury until he is satisfied that the State is again complying.

### Part III

#### TENTATIVE OUTLINE FOR STATE PLAN FOR MATERNAL AND CHILD HEALTH PROGRAM

##### A. FISCAL

1. *Contributions from State for use in matching Federal funds*
  - a. State contributions—source or sources
  - b. Local contributions—amounts—source or sources
  - c. Estimates of total amount to be available for year—for quarter
2. *Federal Funds requested*  
Estimate of total annual expenditures for maternal and child health—Requests for first and second quarter
  - a. From matched fund
  - b. From free fund
3. *Plan of Expenditure*
  - a. In Division of Maternal and Child Health
 

Personnel—Salaries of director and staff  
Travel  
Equipment and supplies  
Educational literature  
For special demonstrations
  - b. In other divisions
    - i. Division of Public Health Nursing
 

Personnel—Salaries of Advisory Supervising Nurses and Field Nurses  
Travel  
Equipment, etc.

ii. Others—specify in detail.

##### B. STATE ADMINISTRATIVE SET-UP

1. *Division of Maternal and Child Health*
  - a. Status in State Department of Health
 

Personnel (give details including qualifications of individuals)  
Director—Medical  
Medical Staff—full time, part time  
Nursing Staff (if under this division)  
Director of Nurses  
State Advisory Nurses—full time  
Field Nurses—Generalized county nurses (part time in maternal and child health)  
For special demonstrations of maternity nursing, etc.
2. *Division of Public Health Nursing* (if separate division)
  - a. Personnel in field of maternal and child health
 

State Advisory Nurses  
Field Staff  
i. Generalized county nurses—part time  
ii. Special field nurses (generalized or special maternity nurses)
3. *Other divisions*
  - a. Personnel directly contributing to maternal and child health program—full time, part time

##### C. PROGRAM OF MATERNAL AND CHILD HEALTH DIVISION

1. *General Maternal and Child Health Activities*  
State-wide activities of medical, nursing, and other staff—consultative, advisory, educational, and health services
  - a. Plan of cooperation with Divisions of County Health Units, of Public Health Nursing, Communicable Disease Control, etc.
  - b. Plan of cooperation with State Medical Societies and organizations and with nursing, welfare and other agencies and organizations
 

Advisory committees  
Activities in cooperation with such societies or agencies; health services, educational activities.
- Local Activities*
  - a. Plan for extension of maternal and child health activities in local areas under local authorities
    - i. Through county or district health units; in unorganized areas
    - ii. Assistance with personnel, etc.
    - iii. Cooperation with local medical societies, nursing, welfare and lay agencies and organizations  
Local advisory committees
    - iv. Activities—Local health services, educational activities, consultation service.
  - b. Evidence that local activities, the cost of which is included in funds for matching, have been brought into the State plan and under supervision of Division of Maternal and Child Health
2. *Special Activities*
  - a. Development of maternity nursing services

- including nursing at delivery in selected area or areas
- b. Special demonstration programs in cooperation with local authorities in selected areas or among selected groups of population—to meet special needs, as
    - i. Areas or groups of population with high maternal or infant death rates; high morbidity rates
    - ii. Areas or groups of population in economic distress.
  - c. Programs of more permanent character in local areas in economic need—in cooperation with local authorities.

## BUREAU OF LABORATORIES

James G. McAlpine, Ph.D., Director

### THE SCHICK TEST AND SUSCEPTIBILITY TO DIPHTHERIA

Since 1912 when Michaelis and Schick first introduced an intracutaneous method for determining susceptibility to diphtheria, the Schick test has been widely employed especially in the United States. It has been generally conceded that an individual who is Schick negative possesses sufficient protection against accidental infection with *Corynebacterium diphtheriae*. However, that this is not always the case may be seen by reference to the literature where a number of cases of clinical diphtheria have been reported in Schick negative children. Furthermore, some practicing physicians have occasionally noted these apparent anomalies in their private patients.

It is undoubtedly true that some cases which are called diphtheria are misdiagnosed. Frequently sore throats with or without membranes are classified as diphtheritic if positive cultures are obtained. However, such a condition is not necessarily diphtheria because the person may be simply a carrier who has a throat condition due to other causes.

A careful study of suspected cases of diphtheria who are Schick negative should be made. Park<sup>1</sup> (1926) has stated that he has never seen an undoubted case of diphtheria in an individual having an undoubted Schick negative reaction. Nevertheless, some observers have reported otherwise. Saunders<sup>2</sup> (1933) summarizes 78 cases in

a group of 8,027 immunized children (6,878 fully and 1,149 partially immunized). In 33, or 42.3 per cent the diagnosis of diphtheria was not confirmed in the hospitals; in 18 the treatment was incomplete. In 27 cases where treatment was complete and the necessary time element for the development of immunity had been fulfilled, there were 9 where the diagnosis was extremely doubtful and 4 in which it was doubtful. In the 14 remaining individuals 12 had not been Schick tested after treatment. Diphtheria had been reported in 7 known Schick negative children but in 5 the diagnosis was extremely doubtful. These results show the importance of complete investigation in all cases where diphtheria is suspected in immunized children.

Leach and Poch<sup>3</sup> (1935) claim to have found seven cases of diphtheria in immunized and Schick negative children in Austria. They state that "experience has taught us that the Schick negative state does not exclude the possibility of clinical diphtheria." On the other hand they are convinced that a Schick positive reaction indicates without exception that an individual is susceptible to diphtheria.

The Schick test is in reality a measure of tissue immunity or reactivity. The dose contains in 0.1 cc. 1/50 of an M.L.D. of toxin and it is generally assumed that this amount will produce no reaction when injected intracutaneously into a person whose blood serum contains more than 1/30 unit of antitoxin per cubic centimeter. It has been shown in recent years, however, that a strict agreement between the antitoxin content of the blood and the Schick test does not exist and since the latter is strictly a tissue reaction, some have claimed it runs more parallel with the antitoxin content of tissue fluids. It is said that one can assert with certainty that humans with an antitoxin content of 1/20 to 1/30 unit per cc. of serum will be Schick negative but one cannot with the same certainty estimate from a negative Schick reaction the antitoxin titer of the blood.

Leach and Poch<sup>3</sup> (1935) made antitoxin titrations on 215 children who had been

1. Park, W. H.: Active Immunization against Diphtheria. Am. J. Dis. Child. 32: 709-717. Nov.

2. Saunders, J. C.: The Occurrence of Diphtheria in "Immunized" Persons. Irish J. M. Sc. pp. 611-619, Nov.

3. Leach, C. N. and Poch, G.: "Ueber Beziehung zwischen Schicktest, Antitoxintiter und Diphtherieempfanglichkeit." Wiener klin. Wochsch. Number 9.



Schick tested. Their results are summarized in Table I.

TABLE I

Schick Reaction	Serum Antitoxin Titer (Unitage per cc.)					Total
	Over 0.03	0.03 to 0.01	under 0.01 to 0.005	under 0.005 to 0.0005	less than 0.0005	
Negative	157	21	11	14	3	206
Positive	0	1	0	7	1	9
Total	157	22	11	21	4	215

It will be seen that of 215 serum titrations 179 or 83.3 per cent had a titer of 0.01 unit or above and this number included one Schick positive child. Also 28 Schick negative children or 13.6 per cent of the total Schick negative individuals had titers of less than 0.01 unit per cc. and three had titers of less than 0.0005 units per cc. In another study these authors, Leach, Jensen and Poch<sup>4</sup> (1935), made no use of the Schick but based all their results on the serum titrations which were made immediately before and 28 days after injection. They emphasize the "importance of the primary blood titration in comparing results of immunization by the same or different methods in groups of children."

Another factor which has received consideration by McGinnes, Stebbins and Hart<sup>5</sup> (1934) is the reversion of Schick negatives in 1 year after testing. Table II taken from their article is reproduced here.

TABLE II

Reversion of Schick Negatives in 1 Year

	Posi- tive	Total	Percent showing reversion
Originally Schick negative— With no history of previ- ous immunization .....	36	550	6.5
Originally Schick negative— With history of previous immunization .....	24	519	4.6
Originally Schick positive— Rendered Schick negative by Park's toxoid .....	10	225	4.4
Originally Schick positive— Rendered Schick negative by alum precipitated toxoid .....	19	343	5.6
	89	1635	5.4

4. Leach, C. N., Jensen, C. and Poch, G.: Diphtheria Immunization with a Single Injection of Highly Purified Formol Toxoid and Al (OH)<sub>3</sub>. J. Lab. Clin. Med. 20: 451-459. No. 5, Feb.

5. McGinnes, G. F., Stebbins, E. L. and Hart, C. D.: "Experience with Alum Precipitated Toxoid in Virginia and Observations on the Reaction following its Use. A. J. P. H. 24: 1141-1147. No. 11, Nov.

It will be noticed that the average percentage of reversions after the various types of immunizations was 5.4 per cent. In considering cases of clinical diphtheria in formerly Schick negative individuals the possibility of reversion must always be considered.

## BUREAU OF PREVENTABLE DISEASE CONTROL

D. G. Gill, M. D., Director

### MALARIA ON THE INCREASE

For the first five months of this year there were more than twice as many cases of malaria reported than during a similar period last year. A search of the records during the past ten years also fails to show any year in which so much malaria was reported in the early part of the year. Numerous inspections of lakes and other breeding areas of mosquitoes have also shown an unusually early emergence of mosquitoes—the season being at least a month earlier than was expected.

Past experience has shown that approximately 85% of the malaria that is reported occurs in the last seven months of the year, so if that holds true this year Alabama will reach an all-time high in malaria incidence. Explanations are difficult. Some of this increase is undoubtedly due to the greater interest being manifested in malaria control, particularly in the Tennessee Valley and in certain other areas of the state. Even discounting this, there has been a real increase this year.

Anti-mosquito measures are being pushed wherever possible and there can be no let-up in the drainage, oiling, and screening programs. From the physician's viewpoint, adequate treatment will also aid in keeping down spread. Instead of having only one drug now, however, the physician's armamentarium has been increased by the addition of atabrine. This drug will not displace quinine, but it is particularly recommended for cases of estivo-autumnal or malignant tertian infections and is apparently superior to quinine for this type of malaria. To quote from the third general report of the Malaria Commission of the League of Nations:

"There is a general consensus of opinion



that, for treating primary attacks of this type of malaria, atabrine is very much more effective than quinine or any other remedy hitherto known. The usual doses are three tablets (each containing 0.1 gm.) daily by the mouth for five or seven days. As the drug is relatively non-toxic, a dose of six tablets (0.6 gm.) can be given on the first day if desired. In cases with severe vomiting or other complication which prevents oral administration, the drug can be given intravenously or intramuscularly in solution. It dissolves readily in normal saline. A suitable dose for intravenous administration is 0.3 gm. dissolved in 5 cc. normal saline.

"According to present knowledge, all relapses in malignant tertian malaria are brought about by a repetition of the process which led to the primary attack and are due to the persistence and multiplication of the ordinary asexual parasites. Theoretically, therefore, it should not be difficult to prevent relapses in malignant tertian malaria, provided that we have at disposal a drug with a specific action on those asexual forms. Another factor favorable to the action of specific drugs in preventing relapses of this type of malaria is that even the first recrudescence is less severe in most cases than is the primary attack, and that each subsequent recrudescence is milder than the one which preceded it.

"Having regard to this knowledge, the justification for aiming at early permanent cure by specific drug therapy is much greater in malignant tertian than in benign tertian malaria. After the patient has recovered from the primary attack, whether this attack has been treated with quinine or with atabrine, we should not resume specific drug treatment until the onset of a recrudescence. If the case is going to recrudescence (relapse) at all, it will almost certainly do so within fifteen days after recovery from the primary attack. As soon as the first recrudescence has developed, it should be treated therapeutically as if it were a primary attack; but if atabrine, for example, was used for curing the primary attack, quinine should be used for curing the first recrudescence, and vice versa. In all probability, by alternating the two drugs in that way, early permanent cure will be effected and no subsequent meas-

ures for the prevention of relapses will be required."

Laboratory examinations have revealed a considerable increase in the malignant tertian infections, so in all cases a blood film should be made to confirm the diagnosis and establish the type of parasite responsible.

#### "CURE" IN SYPHILIS AND THE OPTIMUM TIME TO BE ATTAINED

The term "cure" in syphilis is only presumptive since there are no available criteria of "cure" at this time. But a patient may be said to be "cured" when there is a complete extinction of all symptoms and signs of the disease, with non-transmission of the infection over a lifetime.

When treatment is begun in the seronegative primary stage, i. e., the diagnosis being made by the dark field or other identification of the *Spirocheta pallida*, an average of 71.4 per cent and a maximum of 83 to 86 per cent of "cures" are obtained. If treatment is not begun until the sero-positive primary stage then only 53.3 per cent of patients are "cured". This represents the average percentage, with 64 to 70 per cent being the maximum percentage of "cures". This means then that if treatment is withheld until the Wassermann is positive 18 out of every 100 patients lose their chance of obtaining a cure. Now if treatment is delayed until development of the secondary eruption and a positive blood test then "cure" is attained in only 50 per cent of the patients on the average with 61 to 82 per cent by the best methods. It is then safe to say that a patient who begins treatment in the seronegative primary stage has a greater chance of becoming "cured" than if he waits until his blood is positive with or without his secondary rash.

It is apparent, therefore, that the physicians who diagnose syphilis as early as possible and begin treatment will achieve better results with their patients than those who wait.

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Without taking ourselves too seriously, and conscious of the age-old time-relationships as we see them all about us, each one of us must go and do his best, and each one in his own way.—*Huntington Williams*.

## BUREAU OF SANITATION

G. H. Hazlehurst, Director

### RAT CONTROL AND TYPHUS FEVER PREVENTION IN ALABAMA

Typhus fever was first recognized in Alabama in 1922. Maxcy, of the U. S. Public Health Service, who was on duty in this State at that time, made a particular study of the disease and reached certain conclusions regarding its means of spread. Since this original work in which the rat was suggested as the reservoir of infection others have definitely shown the rat and rat flea to be responsible for the spread of typhus fever. These findings indicate that the control of this disease is essentially a question of rat control.

From 1922 to 1932 cases continued to be reported in Alabama with an average of 60 to 80 cases being recognized each year. In 1932 there was a very sharp increase in incidence. This increase continued the following year when the disease reached such proportion as to become a serious public health problem. Control work was begun in 1933 in many of the towns in the area concerned (Southern and Southeastern Alabama) by the inauguration of rat control programs. These programs consisted of trapping or poisoning or a combination of both. Following these local efforts a more widespread program was made possible by the Civil Works Administration. The latter was a serious attempt at rat destruction and was undertaken in some twenty-one counties. Authorities believe, however, that typhus fever has secured such a firm foothold in Alabama as to warrant a continuous control program.

On the tenth day of June 1935 a State Unit, financed by the U. S. Public Health Service, was set up to carry out the tentative program as outlined below. This unit consisting of one director and four district men is centralized in the Bureau of Sanitation. Its efforts will be directed toward rat control in the twenty-one counties in which typhus fever is largely confined. The work will not only embrace destruction, but those measures which lead to rat suppression, as is indicated further.

The tentative or proposed program, which in part is already under way, is as follows:

1. To survey certain selected communities to ascertain facts as to character and extent of existing rat harborage and the degree of rat infestation of same.

2. To make surveys, or rather conduct surveys in the several types of communities; i. e., cities, towns, villages, and rural districts, so as to be able to get a fair cross section of conditions existing throughout the State.

3. To draft plans for correction of conditions found as the result of these surveys.

4. To formulate plans for a campaign of education on the subject of rat proofing which should be brought home to each owner or person concerned in an objective manner—rather than by depending on the distribution of pamphlets alone.

The subject is to be dealt with from these four (4) viewpoints:

- a. Its value as a health or disease control measure.

- b. Its value as an economic measure in reducing destruction of food supplies and other merchandise.

- c. The value of the methods that should be used and the kind of material that should be employed in carrying out rat proofing work. Especially is it desirable to make clear the difference between the two fundamental types of rat proofing, viz.: the eliminative and protective types.

- d. The value of, and the need and provision for, the permanent upkeep of rat proofing work of the type mentioned above, and the need for its regular inspection to see that it is maintained in efficient condition and further that no structural or incidental changes that would alter the harborage status have been made.

In this program it will be recognized that the problem is being viewed from the standpoint of permanent measures as well as temporary protective measures. As in other public health endeavors the success of the program will be dependent upon public enlightenment and the extent to which the public is willing to work with this Unit.

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It is the obligation of all public health administrators to provide, in an efficient and economical manner, the means of health protection, and at the same time stimulate an interest in the promotion of positive health habits.—*Vaughan, Am. J. Pub. Health, June '35.*



## BUREAU OF VITAL STATISTICS

Leonard V. Phelps, Director

## HOMICIDES IN ALABAMA

(Taken from the Annual Report of the Bureau of Vital Statistics, 1933: Published May 1935)

In 1933, the recorded number of homicides was 683. The death rate (24.9 per 100,000 population) was much greater than the previous five-year average, (1928-1932) of 21.1, establishing a new maximum record for this cause of death. The advance in the death rate was due almost entirely to the large increase in the number of colored homicides. There were only three more white deaths from this cause in 1933 than in 1932, but there were 86 more colored deaths, representing an increase of more than 21 per cent. The white rate (11.1) was practically the same as that for the two preceding years. The colored rate (49.9) has never been so high.

The resident death rate (corrected for place of occurrence) was 38.4 in cities of 10,000 or more and for the remainder of the State (20.8). The colored resident rate in cities of 10,000 or more (81.7) was practically seven times as great as the white rate (12.2); for the remainder of the State the colored rate (39.5) was approximately four times the white rate (10.8).

In 1933, the likelihood of death from homicide was four times as great for the colored as for the white.

Of the 683 homicides, 28.6 per cent were white—71.4 per cent colored; and of the 195 white homicides, 89.2 per cent were males—10.8 per cent females; of the 488 colored homicides, 80.9 per cent were males—19.1 per cent females.

In 72.3 per cent of the white homicides the means used were firearms; cutting, 11.3 per cent; and in the colored homicides firearms, 69.9 per cent; cutting, 21.1 per cent.

Approximately 30 of each 100 homicides were (15-24) years of age; 33 (25-34) years, and 19 (35-44) years.

Note: It is interesting to note that according to tabulations just completed, the total number of homicides in 1934 was 723—(214 white and 509 colored). The corresponding death rates were 26.4, 12.1 and 52.0. It will be noted that this represents the highest mortality from homicide ever recorded in Alabama. The upward turn of the white death rate from this cause is of special interest, as well as the continued increase to a new maximum among the colored.

Year	HOMICIDE					
	Total		White		Colored	
	No.	Rate	No.	Rate	No.	Rate
1913	490	22.2	112	8.6	378	41.7
1914	492	22.1	132	10.0	360	39.7
1915	386	17.1	119	8.8	267	29.5
1916	340	15.0	99	7.2	241	26.6
1917	317	13.8	95	6.8	222	24.6
1918	265	11.4	69	4.9	196	21.7
1919	293	12.5	78	5.4	215	23.8
1920	358	15.2	112	7.7	246	27.1
1921	451	18.8	133	12.4	318	29.4
1922	500	20.6	174	11.6	326	35.6
1923	518	21.1	138	9.0	380	41.3
1924	508	20.5	137	8.8	371	40.2
1925	449	17.9	120	7.6	329	35.5
1926	508	20.0	137	8.5	371	39.8
1927	522	20.3	165	10.1	357	38.2
1928	548	21.1	144	8.7	404	43.0
1929	516	19.7	147	8.7	369	39.1
1930	544	20.5	150	8.8	394	41.6
1931	600	22.4	199	11.5	401	41.9
1932	594	21.9	192	11.0	402	41.5
1933	683	24.9	195	11.1	488	49.9

\*Data not available.

## CURRENT STATISTICS

## \*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

	April	May	Estimated
			Expectancy
Typhoid	16	22	38
Typhus	3	14	4
Malaria	264	482	142
Smallpox	15	4	51
Measles	1483	580	1054
Scarlet fever	30	28	33
Whooping cough	210	162	178
Diphtheria	42	48	38
Influenza	351	119	155
Mumps	122	69	103
Poliomyelitis	2	2	2
Encephalitis	1	3	3
Chickenpox	197	161	148
Tetanus	7	5	2
Tuberculosis	379	312	332
Pellagra	52	56	106
Meningitis	14	3	4
Pneumonia	471	310	242
Syphilis	273	758	172
Chancroid	9	8	8
Gonorrhea	269	371	177
Ophthalmia neonatorum	2	0	2
Trachoma	0	0	0
Tularemia	5	4	0
Undulant fever	3	6	3
Dengue	0	1	0
Amebic dysentery	0	1	0
Rabies—Human cases	1	0	0
Positive animal heads	99	63	

\*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years. With the venereal diseases, clinic cases were not included prior to this year.

## Book Abstracts and Reviews

The Autonomic Diseases or The Rheumatic Syndrome. By T. M. Rivers, M. D., Kissimmee, Florida. Dorrance and Company, Inc., Philadelphia. 290 pages with bibliography. Price \$3.00.

The author of this book has combined some very excellent clinical descriptions with some theoretical discussions of the nature of arthritis which seem based more on philosophy than on actual scientific facts. According to his thesis, the rheumatoid diseases and many other varying clinical enti-



ties result from the action of certain protein-composition products on the elastic connective tissue of the body with a resulting edema which causes an interference with blood supply of the adjacent parts. These same products may act upon the sympathetic or parasympathetic nerves in producing symptoms. He claims that hypertension, angina pectoris, acute coryza, hay-fever and asthma, gastric ulcer and cancer, epilepsy, migraine, chorea and urticaria are all due to disturbances of the autonomic nervous system. To prove his theory he has little to offer and though he claims to have done much experimentation, he offers little conclusive proof in the form of experimental data. He seems to assume too much and prove too little to be really convincing. Sometimes his statements are so vague that they convey little meaning; as: "If there is an imbalance of endocrines, this should be corrected, and all other agents which have augmentatory action through the thoracico-lumbar nerves should be eliminated". This is one of his directions for the treatment of chronic arthritis. How that statement can be converted into practical use is beyond the understanding of the reviewer, and it is this vagueness which constitutes the chief fault of the volume. C. K. W.

**A Textbook of Biochemistry.** Edited by Benjamin Harrow, Ph. D., Associate Professor Chemistry, the City College, College of the City of New York, and Carl P. Sherwin, M. D., Sc. D., Dr. P.H., LL.D., member of the Staff of St. Vincent's Hospital and French Hospital, New York City. W. B. Saunders Company, publishers. Philadelphia and London. 1935. Cloth. 797 pages with index. Illustrated. Price \$6.00.

The various chapters of this volume have been contributed by over thirty authors, most of them professors of biochemistry in the United States, England or Scotland. Among the contributors are E. V. McCollum, L. G. Roundtree, Philip Eggleston and John H. Ferguson, the Assistant Professor of Pharmacology and Physiology, School of Medicine, University of Alabama. Intended as a textbook for students, it has reached the scope of an encyclopedia for teachers. The content on the whole is so technical that it will prove of little value to the practitioner of medicine, yet chapters on the vitamins, the enzymes, the blood, the hormones and carbohydrate metabolism will prove not only of practical value but simple and pleasant in the reading. It is hardly fair to judge a text-book for students of chemistry from the point of view of the practitioner, but since these reviews are intended primarily for practicing physicians it would be fair to state that it is far too technical for the consumption of the average Alabama physician who is more interested in the application of biochemistry studies which made such an application possible. As a reference book in medical libraries, for the use of teachers of biochemistry, for occasional consultation by the laboratory worker this book will serve a valuable purpose.

C. K. W.

**The Doctor's Bill.** By Hugh Cabot, M. D., Mayo Clinic, Rochester, Minnesota. Columbia University Press, publishers. 2960 Broadway, New York City. 1934. Cloth. 312 pages. Price \$3.00.

The future of medical practice is in the balance. Will it turn toward state medicine? Will it re-

main as it is with greater responsibility placed on the shoulders of the general practitioner? Or will the profession itself work out some method of furnishing to *all* the people a better medical service than is now available? Which of the various schemes will supplant our present highly individualistic one? Will group practice solve the problem? Will compulsory health insurance for the low income group prove a wise step? Will hospitalization insurance decrease the financial burden of illness and increase the doctor's income? Will contract practice be extended or curtailed? Will the general practitioner become the czar of medicine or will he be reduced to serfdom? What will be the eventual outcome of fee-splitting—will it cease or will it be countenanced? Will our public health activities continue to infringe on the field of the practicing physician or will the practicing physician take over much of the responsibility for prevention of disease? Will the profession take a lead in working out these problems or will legislators solve them without the aid and guidance of the profession? Is the medical profession alone to fix the standard of medical practice or will the economist, the sociologist, the politician, and the public have an equal right to define this standard of service? With such questions Hugh Cabot deals. In his book are presented what he considers fundamental facts pertaining to practice of medicine in the past and in the present. He then offers his suggestions for a solution of the problem—suggestions not entirely paralleling those of the American Medical Association or of the Committee on the Cost of Medical Care. Both his views and his reasons for favoring them are presented not only logically but in a charming manner. Those who have kept up with the literature on this subject will get an original and valuable point of view from this book. Those who have failed to follow these advances will get a good summary of the entire subject in less than three hundred pages. C. K. W.

**The 1934 Year Book of General Therapeutics.** Edited by Bernard Fantus, M. S., M. D., Professor of Materia Medica, Pharmacology and Therapeutics, University of Illinois College of Medicine; Member, Revision Committee of the United States Pharmacopoeia and of the National Formulary Revision Committee; Director of Therapeutics, Cook County Hospital. The Year Book Publishers, 304 South Dearborn Street, Chicago, Ill. 462 pages. Price \$2.25.

The Year Book of Therapeutics for 1934 contains less valuable material than did its immediate predecessor. Its division into sections on "Antipathogens", "Tissue Alterants", "Restoratives", "Function Modifiers", and "Nonpharmacal Therapy" is artificial and confusing. Yet, on the whole, there is quite a bit of valuable material in the book which is well abstracted and edited. After all, the editor can not be blamed for the lack of interesting material during the past year.

There are several articles on the non-operative treatment of varicose veins and the injection of hemorrhoids. The use of wire-mesh seems to offer a decided advantage over gauze dressings in the care of healing or granulating wounds. Tetrachlorethylene seems to be a safer and more effective drug than any other in the treatment of hookworm disease. The indications for the oxygen

tent are given. Strophanthin should prove a promptly acting and highly satisfactory substitute for digitalis when emergency effects are needed. There are several valuable articles on toxicology and excellent summaries on pneumothorax in the treatment of tuberculosis and pneumonia. The significance of the x-ray findings following intravenous urography are well classified.

On the whole, the book is good but less full of "good things therapeutic" than was the "feast" to which Doctor Fantus invited his readers in the 1933 Year Book.

C. K. W.

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The 1934 Year Book of The Eye, Ear, Nose and Throat. Edited by E. V. L. Brown, M. D., Professor of Ophthalmology, University of Chicago, and George E. Shambaugh, M. D., Professor of Otolaryngology and Rhinology, Rush Medical College of the University of Chicago. The Year Book Publishers, Inc., Chicago, Illinois. 621 pages. Price \$2.25.

Until late in the last century, the eye was generally regarded as immune to tuberculous disease. It is an interesting contrast to note in modern works the number of ocular conditions ascribed to tuberculosis, the many localities which may be involved and the numerous clinical varieties of infection. A. MacCallan gives thirteen diagnostic findings in trachoma, the value of which is enhanced by the inclusion of slit-lamp findings. Biomicroscopy continues to yield profound revelations, especially as regards corneal conditions. Cholesterol infiltration of the cornea is a striking example.

A number of abstracts shows the greater thought given to "Endocrine Cataract". Some twenty pages are devoted to retinal detachment. Hamburger, after ten years, is less optimistic about glaucoma in glaucoma, but asserts strongly its superiority to atropine in breaking up adhesions in iridocyclitis. One especially interested in the mutual inter-ramifications of neurology and ophthalmology will find the section "Neurology and Visual Fields" enticing. From the tremendous amount of detailed work on the pathology of high-tones deafness by Crowe Guild and Po'vogt at Johns Hopkins University, editorial belief is that "This laboratory bids fair to revolutionize our meager knowledge of the etiology of certain forms of deafness." Much material is presented on Meniere's disease including Dandy's work. Some twenty-four pages are devoted to complications of otitis media. "Present Status of Ear, Nose and Throat Practice" on page 432 is well worth reading.

J. T. C.

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## Truth About Medicines

### ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following apparatus have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

Adlanco Ultratherm.—A short wave diathermy machine employing vacuum tubes for generating high frequency alternating currents. The clinical indications for the Ultratherm are comparable to those of the conventional diathermy. The machine is not recommended by the manufacturer for surgical diathermy or for hyperpyrexia treatments. Burns are possible, but the likelihood of their occurring with the Ultratherm is not as great as with the conventional diathermy. Adlanco X-ray Corporation, New York.

Inductotherm.—The purpose of this short wave diathermy machine is to administer therapeutic heat to the body tissues, thus producing a heating effect comparable to that of diathermy. Conventional electrodes are not used, and no metal to skin contact is made with the patient. Burns are possible with this machine, but the chances of burns are less than for conventional diathermy. General Electric X-Ray Corporation, Chicago. (J. A. M. A., May 11, 1935, p. 1705.)

Illinois Infra-Red Lamp.—The heating element of this lamp is a single bar type about  $2\frac{3}{4}$  inches long and  $1\frac{1}{2}$  inches in diameter and is made of ceramic material and resistance wire. Its rated capacity is about 500 watts. From a clinical standpoint the lamp was found to be satisfactory for treatment when infra-red radiation is indicated. Illinois Surgical Supply Co., Chicago.

Elliott Treatment Machine.—An electrical machine recommended for applying heat therapy for the treatment of inflammatory diseases of the pelvis. Treatment is accomplished by prolonged and sustained application of heat. Hot water, the temperature of which may be controlled by the physician, is circulated through automatically shaped, distensible applicators made of latex. The unit was found to give good service in the conditions recommended, such as inflammatory diseases of the pelvis attended by pain, backache, menstrual irregularities and chronic exhaustion. Manufactured for and distributed by the Treatment Regulator Corporation, Detroit, and the A. S. Aloe Company, St. Louis. (J. A. M. A., May 18, 1935, p. 1823.)



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# THE JOURNAL

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## SKIN GRAFTING\*

ITS RELATION TO GENERAL SURGERY

By  
NEAL OWENS, M. D.  
New Orleans

Skin grafts are transplanted portions of skin, varying in size and thickness, which depend for their blood supply upon the areas upon which they are grafted. An error commonly made in literature is that of regarding any transplanted portion of skin as a graft. Technically skin grafts are only those portions of skin which are completely severed from their original attachments and consequently survive as a result of nourishment derived from the areas to which they are transplanted. Pedicle skin transplants are portions of skin which are transplanted from their original site to a recipient area and which derive their blood supply through their remaining pedicle attachment. True skin grafts normally do not include more than the full thickness of skin, whereas pedicle skin transplants usually carry a full thickness of skin and varying amounts of subcutaneous tissue.

Skin grafts may be divided into three general groups; namely, thin, intermediate, and thick. Thin grafts comprise those which are only slightly thicker than the epidermis, as the Reverdin and Ollier-Thiersch types; the intermediate group is represented by a graft which is definitely thicker than the Ollier-Thiersch or the Reverdin and yet it is not sufficiently thick to contain the full depth of the skin, thereby eliminating it from the group of thick grafts; the thick grafts are those which in-

clude a full thickness of skin, such as the Davis and the Wolfe-Krause types.

Pedicle skin transplants are of two types, single and double. These transplants differ from grafts in two respects: They depend for their blood supply upon vessels entering their pedicle attachments; and they are normally fashioned according to pattern, including a full thickness of skin along with varying amounts of subcutaneous tissue.

The thin grafts include the Reverdin and the Ollier-Thiersch. These differ primarily in their size and in the manner in which they are cut—the thickness of the grafts is essentially the same. The Reverdin graft is a small disc-like portion of skin, slightly thicker in the center than at its periphery and its thickness includes slightly more than the epidermis. Reverdin in his original description of this graft stated that it was epidermic in type; this, however, was later refuted by him in a subsequent article where he stated that it was almost impossible to remove the graft without including some of the dermis. The usual diameter of the Reverdin graft is from 2 to 4 mm. The Ollier-Thiersch graft, while approximately the same thickness as the Reverdin, is considerably larger in size. The area of Ollier-Thiersch grafts removed is frequently equal to 25 square inches. Both grafts are commonly used in the repair of surface wounds which are not subjected to any great amount of pressure, since the thinness of the graft predisposes to an unstable type of healing. Because of the unstable type of healing which results from the application of the Reverdin graft it is seldom indicated, for the Davis graft which produces a much more stable type of healing can be removed with much the same facility and equally little shock to the patient. The

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\*Read before the Association, in annual session, Mobile, April 16, 1935.

Ollier-Thiersch graft is indicated in the repair of any large surface defect which involves an area subjected to little trauma or pressure where a full thickness or an intermediate graft would be less desirable. This graft functions admirably in replacing loss of mucous membrane and will within a period of a few months undergo a change simulating this tissue in appearance.

that produced by the Reverdin and Ollier-Thiersch. Gillies has utilized this graft with great satisfaction in the repair of wounds resulting from surgical eradication of areas of radionecrosis and radiodermatitis. Blair and Brown have popularized the graft in this country by the repair of large surface defects resulting from burns. It may be used satisfactorily for the repair of

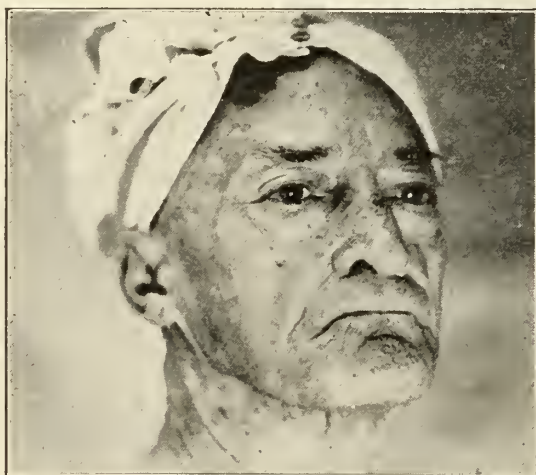


Fig. 1. (a) Photograph showing epithelioma involving bridge of nose.

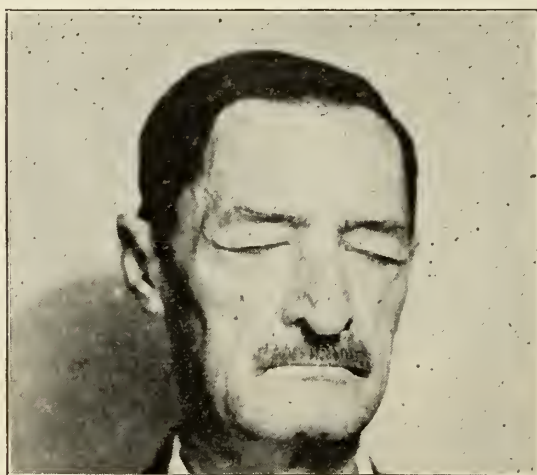


Fig. 1. (b) Photograph showing healed stage following complete excision of epithelioma with wide margin and application of full thickness skin graft.

The intermediate type of skin graft is one which has been referred to in the literature under a variety of names: the "thick razor graft" of Gillies; the "split graft" of Blair; the "dermo-epidermique graft" as described by some French authors. The graft in question, however, is essentially the same in all instances and contains from one-half to two-thirds of the full thickness of skin. The variation in thickness may be due to three factors: the type of skin removed (this varies not only with location on the body but also with the age and health of the patient); the thickness of skin indicated for the repair of the defect; and the skill of the operator. Microscopic sections of the intermediate type of graft show that it includes the epidermis as well as a fair portion of the dermis, roughly a thickness varying from one-half to two-thirds of normal skin depth. This graft produces a stable type of healing and serves admirably in the repair of wounds producing large surface defects in locations which are subjected to moderate trauma or pressure. The stability of a wound healed by this graft is considerably greater than

large surface defects on any part of the body except the major pressure bearing areas. Facial defects may be repaired by the use of this graft with results which are satisfactory and cosmetically good.

The thick grafts include the Wolfe-Krause and the "small deep graft" of Davis. These grafts produce healing which is stable and since they include more of the normal skin elements, the healed wounds are more normal in appearance. The tendency toward contracture of the healed wound is considerably less than that produced by the other grafts, particularly those following the application of the full thickness graft. Facial defects with a moderate loss of tissue are best repaired by means of the full thickness graft for healing results with a minimum amount of contraction and distortion, factors which are important in effecting good cosmetic results [Figures 1(a) and 1(b)]. The Wolfe-Krause graft is also ideal in the restoration of eyelid defects and in the repair of defects resulting from the correction of ectropia. This graft is best removed to conform



to a pattern of the defect to be repaired, thus insuring that it will be identical in size. This latter factor is of considerable importance since it insures that the graft will be under normal skin tension after it is sutured into the defect. The full thickness graft includes the entire thickness of the skin with virtually no subcutaneous tissue. The ideal graft of this type includes a minimal amount of fat. Its size varies with the size of the defect to be repaired but is restricted within certain limitations. Blair states that an area of 40 square inches approaches the practical limits of the full thickness graft.

The "small deep graft" of Davis is definitely full thickness in type. This fact is shown by the fat which is visible at the apex of the conical defect produced by its removal. The graft is removed as a cone-shaped portion of skin with skin forming the base of the cone and the apex representing the deepest skin structures. The diameter of the base of this graft, when properly removed, is from 3 to 4 mm. These grafts should be removed according to some definite pattern in order to conserve as much tissue as possible. Davis grafts may be used in any location where there has been a large loss of skin from an area where a stable type of healing is desired, provided a good cosmetic result is not important. These grafts are frequently the solution to the problem of healing large burned areas in which there has been a massive loss of tissue and little skin is available for repair. A surprisingly large wound may be healed by means of this graft with a relatively small amount of skin available. They enable one to effect healing of old chronic, non-specific leg ulcers, and keep the patient ambulatory.

Pedicle skin transplants are divided into two distinct groups: the single pedicle skin flaps and the double pedicle skin flaps which are as a rule fashioned into tubed pedicle skin flaps. The size and thickness of the pedicle transplants are variable and generally are fashioned to conform in size to the pattern of the defect to be repaired. They normally contain the full thickness of skin with varying amounts of subcutaneous tissue. They vary primarily in the number of their respective pedicles and in the manner in which they are fashioned.

The single pedicle skin flaps are attached at one point and are shifted into the defects to be repaired at a single operative stage. The double pedicle transplants or the tubed pedicle skin flaps are attached at each end by means of a connecting pedicle and are fashioned into a closed tube by approximating the two longitudinal borders of the flap in such manner that skin entirely surrounds the outer surface of the tube. The parallel borders of the tubed pedicle skin flap, which have been approximated by folding, are closed by means of fine interrupted sutures, thus completing the formation of the tube. The tubed pedicle skin flap was devised by Gillies, while at Sidcup, as a means of reconstructing some of the massive defects resulting from war wounds. Most of these defects were so extensive that an unusually large area of skin was required for reconstruction, thereby necessitating its removal from some distant point. The transfer of large areas of skin with the under surface exposed naturally resulted in extensive infection and scar formation which made the tissue less desirable. In attempting to obviate these two troublesome complications the present used technique of the formation of the tubed pedicle was devised. By means of the tubed pedicle skin flaps large areas of skin may be brought to a defect from a remote part of the body without altering the skin or subcutaneous tissues, and when the tube is opened, after being carried to the recipient area by means of some movable member, the texture of the skin is pliable and the subcutaneous fat contains little or no scar. In repairing large defects by means of a tubed pedicle skin flap, the tube is formed and permitted to remain undisturbed for a period of two to three weeks, after which time one pedicle is severed and anastomosed to some movable member, such as the arm or leg. Following a second similar period of waiting the other pedicle is detached and carried to the defect to be repaired, where it is sutured into position. The movable member affords blood supply to the tubed flap after it is brought into the defect to be repaired until a blood supply can be established between the site of the defect and the pedicle, after which time the pedicle is severed at its point of anastomosis with the arm or leg and the remaining

detached portion is sutured into the unrepaired portion of the defect. This procedure requires considerably more time than any other type of skin transplant but is essential for the correction of abnormally large defects where skin must be transplanted from some remote part of the body

nique; and (5) a disposition which permits the operator to become deaf to the solicitations of a patient to hurry along and to the urge of the hospital staff to make way for new patients.

The following are the more important general indications for skin grafting: (1)



Fig. 2. (a) Photograph of patient showing extensive radiocarcinoma and radiodermatitis involving the lower eyelid and skin covering the major portion of the right side of the face. There is also a destruction of the bony roof of the antrum showing the resulting defect.



Fig. 2. (b) Photograph showing a single pedicle forehead skin flap brought down with the skin surface inverted to repair the defect in the antrum. Complete restoration of the antrum is necessary before reconstruction of face can be complete.



Fig. 2. (c) Photograph showing tubed pedicle skin flap which was transferred from the abdomen to reconstruct the facial defect resulting from complete excision of skin showing radiodermatitis.

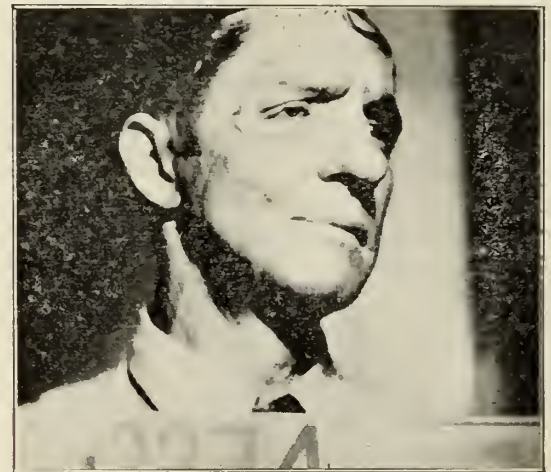


Fig. 2. (d) Photograph showing present condition after face and lower eyelid have been reconstructed.

[Figures 2(a), 2(b), 2(c), 2(d)]. Some of the more important factors necessary for the success of this type of skin transplant are: (1) a minimum amount of trauma during each stage; (2) avoidance of hematoma formation; (3) lack of all tension on the tubed pedicle; (4) extreme care in tech-

the repair of large surface defects resulting from the loss of skin, where closure of the adjacent skin borders would result in distortion; (2) to minimize the production of scar contracture, and distortion; (3) to give maximum stability to healed wounds; and (4) to afford maximum motion following healing of a wound at or near a movable joint.



Tissue loss or defects about the eyes or mouth usually constitute a specific indication for skin grafting for tissue deficiencies in these areas notoriously produce ectropia in the former instance and distortion to the mouth in the latter. Grafts of the

ing time to a minimum and consequently eliminates distortion, contracture, and needless limitation of motion in involved joints [Figures 3(a) and 3(b)]. The two grafts best suited for this type of repair are the "small deep graft" of Davis and



Fig. 3. (a) Photograph showing flexion contraction deformity resulting from scar contracture following burn. Note the head of the radius, which has been dislocated as a result of extreme and continued flexion.



Fig. 4. (a) Photograph of patient showing destruction of the right ala and portion of the bridge and septum of the nose following the application of radium and "cancer salve".

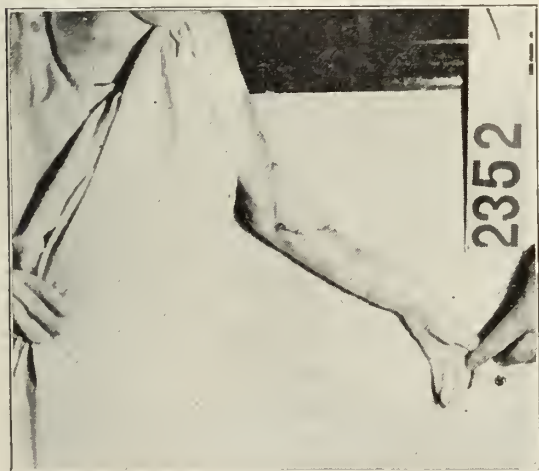


Fig. 3. (b) Photograph showing arm in extension following excision of scar. Defect repaired by means of single pedicle skin flap from the abdomen.



Fig. 4. (b) Photograph showing the first stage rhinoplasty. The lining of the nose has been reconstructed by inverting a portion of skin covering the nose and the entire defect has been covered by means of a single pedicle skin flap from the forehead.

full thickness type are usually best suited for these repairs.

Large surface defects resulting from the destruction of skin following a burn should be repaired by a suitable type of skin graft as soon as infection can be reduced sufficiently to permit its survival. The early grafting of these wounds reduces the heal-

the "intermediate" or "half thickness" graft.

Chronic leg ulcers of the non-specific type can be satisfactorily treated by skin grafting. By means of the Davis graft many of these cases can be treated while ambulatory, thus eliminating hospital expense and loss of time from normal routine.

Cases of chronic laryngeal stenosis which have resisted all conservative and operative efforts to effect a closure constitute a specific indication for skin grafting. In these cases the offending scar production which occludes the lumen of the trachea is removed and the resulting denuded area is epithelialized by means of an Ollier-Thiersch graft. As a result of this procedure the operator is enabled to close the laryngofissure.



Fig. 4. (c) Photograph showing final stage after minor adjustments have been made about the tip of the nose and the right ala.

Chronic x-ray and radium burns, particularly those cases showing a radionecrosis, constitute a specific indication for skin grafting. Many of these cases in the more advanced stages suffer constant, agonizing pains and fortunately most of them insist on obtaining relief. Malignant changes develop in some of these cases if permitted to advance indefinitely. The involved skin should be completely excised and the defect repaired by skin grafting of the type indicated.

Congenital anomalies as pigmented and hairy moles, "port-wine stains", and hemangiomas are conditions which are usually a source of considerable embarrassment and concern to a patient. These can be satisfactorily treated by complete excision and skin grafting.

Much can be accomplished in the restoration of defects resulting from the eradication of cancer, even the reconstruction of major portions of the face, total rhinoplasties and major defects about the mouth [Figures 4(a), 4(b), 4(c)]. Many patients would be less skeptical in subjecting themselves to the eradication of cancer if they could be assured that hideous deformities would not be a necessary sequel.

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**Urethral Obstructions in Children**—The diagnosis of pyelitis, like that of hysteria, should be made with reservations. If pus persists more than a month, a urological examination should be made. While infections of throat or constitutional conditions may introduce bacteria into the blood stream which are eliminated by the kidney, the persistence of pus or bacteria means stasis in the urinary tract. This can usually be demonstrated by intravenous or retrograde cystograms with little discomfort to the patient. A fresh urine specimen obtained after cleansing the penis or catheterizing the female should be carefully stained or cultured to determine the type of infection, while any indication of a chronic or acute toxic condition can be determined accurately by a determination of the blood urea.—*Butler, Virginia M. Monthly, July '35.*



# ACUTE PANCREATITIS NECROSIS\*

(ACUTE HEMORRHAGIC PANCREATITIS)

By

D. C. DONALD, M. D.  
Birmingham, Alabama

Acute pancreatitis necrosis is a disease entity. The consistent frequency with which gallstones or disease of the gallbladder have been found in association with acute pancreatitis has served to confirm the belief that biliary infections predispose to pancreatitis. The disease is ushered in with acute agonizing abdominal pain which is most pronounced in the epigastrium. The suddenness of its onset, the illimitable agony which accompanies it and its high mortality make it the most formidable of all abdominal catastrophes.

## LITERATURE

Acute pancreatitis necrosis was clearly recognized in 1859 by Klebs<sup>1</sup> who believed the eroding action of the ferments formed by the pancreas was responsible for its occurrence. Approximately 50 years ago Fitz<sup>2</sup> of Boston classified the disease in three types: hemorrhagic, gangrenous, and suppurative. The three types differ only in the degree of the infection.

Among the earlier animal experiments in the production of the disease were those of 1856 by Bernard<sup>3</sup> who used a mixture of bile and sweet oil. Hlava and Polya<sup>4</sup> found that various acid media, including gastric juice, weak solution of hydrochloric acid, etc., produced a necrotic effect on the pancreas, whereas solutions of an alkali base produced no harm. Opie<sup>5</sup> in 1901 used infected bile for an injection agent.

All these experiments were made through the pancreatic duct with the same findings and the same pathologic changes in the gland. In addition to producing a

change in the pancreatic cells and the interstitial tissue of the gland, there occurred a necrosis in the blood vessel walls. This accounts for the multiple hemorrhages which characterize the disease. The hemorrhage and inflammation are both secondary to the necrosis.

Acute pancreatitis necrosis is not a bacterial infection like a pancreatic abscess but is an autolysis in the pancreas, setting free into the surrounding tissues trypsinogen and the transformation of trypsinogen into trypsin which occurs in one of two ways:

1. Enterokinase, as may happen rarely in traumatic injury of the pancreas and the intestines.

2. An activating substance produced when the gland itself undergoes autolysis.

The various bile salts found in the bile were thought by Flexner<sup>6</sup> to have a direct effect in producing acute necrosis of the gland, and he found the taurocholate salts much more active than the glycocholates; further, that the colloids—the mucin and the nucleo-proteins of the bile—were not only innocuous but even protective. But Flexner's idea as to the bile salts alone in the production of acute pancreatitis was not confirmed by Archibald's experiment<sup>7</sup> on the cat. Archibald injected bile from an infected gallbladder with impacted stone in the cystic duct and the growth from the bile showed a streptococcal infection. Into the splenic end of the pancreas a portion of the original infected bile was injected, using the duodenal end of the pancreas as a control. A portion of the bile, which three days after operation had become clear and normal looking, was injected into the duodenal end of the same pancreas. After two days the cat was reopened, and it was found that at the splenic end the infected bile had caused a marked inflammatory reaction with fat necrosis in the adjoining omentum. In marked contrast, in the control test (at the duodenal end of the pancreas) the gland appeared normal. Biopsy was made from both areas, and at the splenic end the necrosis of the parenchyma was extensive, with edema and congestion of

\*Presented to the Association in annual session, Mobile, April 16, 1935.

1. Klebs: *Handbuch d. Pathologischen Anatomie* 1: 556, 1868.

2. Fitz, Reginald: *Medical Record* 35: 197, 1889.

3. Bernard, cited by Opie, E. L. and Meakins, J. C.: *Etiology and Pathology of Hemorrhagic Necrosis of the Pancreas*, *J. Exper. Med.* 2, 1909.

4. Hlava and Polya, cited by Archibald: *Experimental Production of Pancreatitis*, *S. G. O.* 28, 1929.

5. Opie, E. L.: *Diseases of the Pancreas*, 2nd Ed. 1910.

6. Flexner: *J. Exper. Med.* 8: 167, 1906.

7. Archibald, Edward: *Experimental Production of Pancreatitis*, *S. G. O.* 28: 529, 1929.

the gland tissue, while at the duodenal end there was very slight necrosis, little edema, and practically no congestion.

The problem of the exact cause of acute pancreatitis, and the exact mode in which that cause works are still somewhat doubtful. There are three principal theories:

1. A blocking at the outlet of the common duct sphincter by either a stone or a shred of mucus, or by a spasm of the sphincter muscle.
2. The infection of the gallbladder traveling along the lymphatics to the head of the pancreas.
3. The duodenal contents are forced through the temporarily relaxed papilla into the common and pancreatic ducts. The first may be considered as proved for a considerable proportion of the acute cases reported.

Hess,<sup>8</sup> Williams and Busch<sup>9</sup> supported the theory of the ejection of the duodenal secretion through the relaxed papilla after the passage of a stone through the ampulla into the duodenum. Through the temporarily opened door, the duodenal contents might be dammed back into the ducts by irregular peristalsis of the bowel. Archibald, through his experiment on the cat, considered such to be impossible under pressure of 1,000 millimeters of water in the duodenum, and this pressure was maintained for an hour. With both ends of the bowel firmly ligated, below and above the papilla, none of the injection media was found to enter the common or pancreatic duct.

The second or lymphatic theory (supported by Deaver and Sweet<sup>10</sup> of this country and Arnsperger of Germany and to the effect that acute pancreatitis necrosis is produced by infection through the lymphatic channel from the gallbladder to the pancreas) is not supported by the recent work of Kaufman<sup>11</sup> and in any event is

hardly susceptible of absolute demonstration. It lacks, as yet, experimental proof, depends upon purely clinical inferences and goes, on the whole, contrary to the rules of pathology.

Acute pancreatitis produced by the retrojection of bile into the pancreatic ducts is supported by both the experimental and clinical pictures and for this to occur certain changes in the bile and the biliary system will need to take place: e. g.,

1. Presence of infection in the bile associated or not with cholelithiasis, in the gallbladder or in the bile ducts, and a relative increase in the proportion of bile salts; or
2. An anatomic arrangement of the parts at the termination of the two ducts which permits of their conversion into one channel at the orifice of the ampulla into the duodenum and the increased pressure in the biliary system behind.

The work of Nordman,<sup>12</sup> Mann<sup>13</sup> and others has shown that after obstruction of the bile flow into the duodenum with a purse string suture at the papilla, where there developed only jaundice, dilatation of the bile and the pancreatic ducts, the animals lived sometime three to four weeks. The pancreas was deeply stained with bile and all of the ducts of the gland were filled with bile, and acute pancreatitis did not develop. If, however, the bile was charged with infection through either the gallbladder or common duct route and in the presence of biliary stasis, acute hemorrhagic pancreatitis developed and produced death in from forty-eight to seventy-two hours.

Mann found that the pressure of the bile in the common duct was due to three causes: the secretory pressure of the bile, the contractile pressure of the gallbladder, and the pressure of the abdominal muscles. Deep respiratory movements, struggling, retching and vomiting often raise the pressure as much as 1,000 millimeters of bile.

Judd<sup>14</sup> examined approximately 200 bodies and found the conversion of the common and pancreatic ducts before reach-

8. Hess, cited by Archibald: *Ibid.*

9. Williams and Busch: *Tr. A. Am. Phys.* 22: 304, 1907.

10. Deaver, J. B. and Sweet, J. E.: *Prepancreatic and Peripancreatic Disease with a Consideration of an Anatomic Basis of Infection from Gallbladder to Pancreas*, J. A. M. A. 77: 194, 1921.

11. Kaufman, Mark: *An Experimental Study of the Lymphatic Theory of Pancreatitis*, S. G. O. 44: 15 (Jan.) '27.

12. Nordman, O.: Cited by Nelson's *Loose Leaf Living Surgery*, 5: 8.

13. Mann, F. C.: *The Bile Factor in Pancreatitis*, *Arch. Surg.* 6: 1, 1923.

14. Judd, E. S.: *Relation of Liver and Pancreas to Infection of the Gallbladder*, J. A. M. A. 77: 197, 1921.



ing the ampulla in 4.5 per cent. It is very probable that they are present in a large proportion of the patients who suffer from acute pancreatitis. The incidence of the disease is very rare in comparison with many other forms of abdominal catastrophes. Its rarity may well be due to the fact that the essential conditions for its development being absent most people are safe from its attack.

Eddohl<sup>15</sup> reports that in 105 cases of acute pancreatitis gallstones were found in 44 cases. Robson<sup>16</sup> found that in 60% of his cases there were associated gallbladder disease and stones. Mechanical irritation of the duodenal mucosa or the application of dilute hydrochloric acid in either the duodenum or the stomach caused a spasm of the sphincter of Oddi lasting from 20 to 30 seconds. Archibald demonstrated that merely cutting the bowel to expose the papilla would give the same reaction. Stimulation of the vagus and the central end of the cut sciatic nerve caused a prompt and intense contraction of the sphincter muscle. Physiologically it regulates the flow of bile and pancreatic juice into the bowel.

It is definitely proved that the discharge of bile into the duodenum is intermittent while the secretion of bile is continuous; moreover, that the bile ducts dilate after the gallbladder has been removed, a result which could only be attributed to some normal obstructing action at the end of the common duct. The part the sphincter of Oddi plays in disease, as in acute hemorrhagic pancreatitis, is through its effect in raising the pressure in the bile and pancreatic ducts. It is definitely concluded that the retrojection of bile into the pancreatic duct is the chief etiologic factor in its production and clinically most frequently comes after eating a heavy meal rich in fats causing a duodenitis. Usually there is an associated gallbladder infection.

#### CLINICAL PICTURE

Acute pancreatitis necrosis is usually ushered in with acute epigastric pain, frequently radiating to the back. Oftentimes the acute attack is preceded by a history of

indefinite pain in the upper abdomen, and a large number of patients will give a history of gallbladder disease and digestive complaints over a period of several years. The disease occurs more frequently in the male (65 per cent) and is encountered, as a rule, in middle or late life, though recently the writer attended a white female, age 24, with all the classical symptoms of the disease. Pain, aside from the acute agonizing type, is persistent and associated with only a fair amount of muscle spasm, except over the pancreas. Usually the pain is so great the patient finds that a sitting posture, or a back rest, gives the greatest amount of ease; that the right lateral position is the more comfortable. The temperature is usually subnormal or normal, though at times it reaches 100 degrees, until the suppurative stage sets in when the temperature wave increases in proportion to the gland and peritoneal invasion. The pulse is quickened and weak. Usually the patient appears in extreme shock with collapse; breathing is difficult and the appearance cyanotic or gray. Halsted<sup>17</sup> called attention to patches of slate blue color which may appear on the abdomen and extremities. In the cases in which the pain is very severe but which are not attended by marked collapse, the hemorrhagic exudate is still confined by the capsule of the pancreas and has not broken through into the general peritoneal cavity. Deaver<sup>18</sup> spoke of the case in which the disease spreads from the gland and is classed as the extremist, the pulse becomes rapid and feeble and the blood pressure falls. The respirations increase in number and are shallow in character, and the development of dyspnea, nausea and vomiting, present in most cases, may be very distressing. Often retching and hiccoughs accompany the vomiting. The vomiting is never fecal as found in intestinal obstruction but consists chiefly of gastric and duodenal contents.

Aside from the clinical picture found in acute pancreatitis the laboratory findings in the urine, relative to the increase of diastase, are of value. Normally the amyolytic ferment runs ten to twenty units.

15. Eddohl: Bull. Johns Hopkins Hosp. 1907.

16. Robson, cited by Archibald: Experimental Production of Pancreatitis, S. G. O. 529: 1929.

17. Halsted: Bull. Johns Hopkins Hosp. 12: 197, 1901.

18. Deaver, J. B.: International Clinics, Series III, 1914-1924, 208.

Warring and Griffith<sup>19</sup> have shown, in disease of the pancreas associated with pancreatic insufficiency, that the diastase may run to 100 or 200 units or even more. The time incident for it to appear is important. In very acute cases sufficient time has not elapsed between the onset of the disease and the examination of the urine to enable it to be manifest. This is especially the case in the acute hemorrhagic type; whereas the acute gangrenous and suppurative types almost invariably show excess of diastase. Glycosuria is not frequent but its absence means nothing.

*Loewe's Adrenalin Test:* The mydriasis test is of value. Two to three drops of a 1/1000 solution of adrenalin chloride are allowed to run into the conjunctival sac of one eye and is repeated in five minutes. If, at the expiration of thirty minutes, dilatation of the pupil is noticed, the test is considered positive and is pathognomonic of pancreatic disease. The other eye is used as a control. Warring and Griffith, out of a series of 15 cases, found the test to be positive in three out of every four.

#### DIFFERENTIAL DIAGNOSIS

The differential diagnosis of acute pancreatitis generally is regarded as difficult and the disease is frequently not recognized until the time of operation. Moynihan<sup>19</sup> states that acute pancreatitis should present little difficulty in making a differential diagnosis as no other catastrophe within the abdomen produces such unendurable agony and so profound collapse.

Perforated duodenal or gastric ulcer usually gives a history of long standing digestive complaint, periodicity of digestive complaint, frequent meals in the form of milk, etc., and the relief that comes from alkalis. When perforation occurs, board-like rigidity of the upper abdomen immediately appears and is persistent even when the patient is heavily narcotized with morphine. After the suppurative stage, upper rigidity is in part replaced by lower abdominal rigidity. The degree of shock is not observed as in acute pancreatitis. The pulse is generally not affected but remains

slow and of good volume. After general suppurative peritonitis develops, the pulse quickens with rising temperature.

In acute gallbladder disease or biliary colic the pain is colicky in character but the patient is able to twist and toss about in an effort to find a position of ease; whereas, with acute pancreatitis the patient is quiet. In gallbladder colic the pain is usually radiated to the right shoulder. There is localization of the pain, after twelve to twenty-four hours, in close proximity to the costal margin. If the abdomen in acute gallbladder disease is palpated, rigidity of the recti muscles is found over the gallbladder from far up on its costal and sternal attachment to two or three inches below the costal margin. The rigidity is general over this area and the costal margin cannot be outlined. In acute pancreatitis the pain is generally in the mid-epigastrium and the rectus muscle, especially along its costal attachment, is not involved. Digital pressure along the costal margin can separate rib and muscle attachment from the rigidity of the mid-epigastrium. Further, in gallbladder disease, a history may be obtained of belching, qualitative food distress, and previous attacks which may or may not have been accompanied by jaundice.

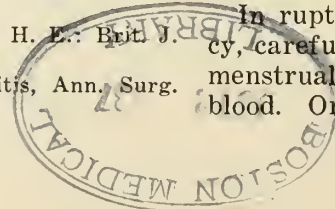
Acute high intestinal obstruction is usually mild in the beginning, increasing in intensity but never becoming so severe as that of acute pancreatitis, which is agonizing and a paramount symptom in the beginning. The vomiting is usually projectile in type, with practically no nausea, and soon becomes fecal in character.

Pain in acute appendicitis is not so severe and is rather generalized in the beginning. Often the pain begins in the epigastrium but in a short time, within twelve hours after the onset of the attack, becomes localized in the lower right quadrant. The patient suffers with great pain; the circulatory collapse and shock found in acute pancreatitis are absent. The lower right quadrant is the site for the muscle spasm and tenderness.

In rupture of an acute ectopic pregnancy, careful history will elicit change in the menstrual periods and vaginal drainage of blood. Origin of the pain in the pelvis and

19. Warring, H. J. and Griffith, H. E.: *Brit. J. Surg.* 6: 476, 1923.

20. Moynihan: *Acute Pancreatitis*, *Ann. Surg.* 81: 132 (Jan.) '25.





lower abdomen will serve to differentiate the condition from acute pancreatitis.

Mortality in operations for acute pancreatitis necrosis has decreased in direct proportion to early diagnosis and prompt surgical treatment.

Koster and Kasman<sup>21</sup> recently reported sixteen cases of hemorrhagic necrosis of the pancreas in which the interval between the onset of the attack and the operation ranged from one to four days, with five deaths, a mortality of 25%.

#### TREATMENT

Moynihan<sup>22</sup> checked the number of cases of acute pancreatitis seen in the Leeds' General Hospital during the years 1915-24. In all there were 21 cases with five deaths, a mortality of 38%.

The time element in acute pancreatitis, from the inception of the disease with its outstanding symptoms and pathologic changes, is very important in rendering proper treatment and maintaining a low mortality rate. The disease like other intra-abdominal infections, if unrecognized and permitted to progress without proper drainage, will be accompanied by untoward complications, such as suppurative peritonitis and its array of toxic symptoms and, if the patient is fortunate enough to combat the infection, the formation of abscess or cyst.

The following classification is particularly important in outlining the course of procedure for the acute pancreatitis case:

1. The cases coming to surgery within forty-eight hours after the onset of the trouble.

2. Deferred period, or the stage in which the split products from the necrosed tissues of the pancreas have escaped into neighboring tissues, especially into the greater peritoneal sac with suppurative peritonitis.

3. The localization period, with formation of an abscess or cyst in the pancreas.

Exploratory laparotomy should be done without delay. After observing the patient a few hours, if no relief of the acute pain follows a hypodermic injection of a half-grain of morphine sulphate, and if other

symptoms of acute pancreatitis (as brought out in the symptomatology of the disease) appear, a laparotomy should be resorted to, provided the case is not so-called pancreatic apoplexy. Here the patient is suddenly overcome by the disease, is in a state of prostration, faint and pallid, the respirations are rapid, and he suffers indescribable anguish. The pulse may be hardly perceptible, the limbs and face are cold, and death itself seems imminent. The mortality will be increased if surgery is instituted at this stage and the patient will be robbed of his only chance. Treatment should be symptomatic as in extreme shock from other pathologic conditions.

If the case is seen on the second or third day, and a general peritonitis has developed, with the patient in a very toxic state, better judgment is shown if there is delay until localization has occurred. This does not imply that delay for localization to occur should be recommended in all cases in which there is evidence of a generalized peritonitis but only in those instances in which the patient is suffering from an extreme degree of toxicity. In such cases there is little hope of recovery from surgical treatment. If the process localizes, however, the prognosis becomes more favorable.

It is almost unanimously conceded in America, and most European surgeons are in agreement, that immediate laparotomy is the proper procedure. In Denmark, the opinion is divided. Dissenting voices favor expectant treatment. They believe that operation is best deferred until the pancreatic symptoms subside, unless diffuse peritonitis or abscess formation supervenes. Mikkelsen<sup>23</sup> reports the recovery of fifty consecutive cases treated, either non-surgically or by deferred operation, as compared with a 66 per cent mortality following immediate operation.

**Type of Operation:** A paramedian incision is made extending from the ensiform cartilage to a point well below the umbilicus, displacing the rectus muscle laterally. Any attempt to go through the muscle by splitting its fibres will weaken it and potentially add to the possibility of a future hernia. Evidence of fat necrosis will be

21. Koster, Harry, and Kasman, Louis P.: *Acute Pancreatitis*, Arch. Surg. 29: 1014 (Dec.) '34.

22. Moynihan: Footnote 19.

23. Mikkelsen, O.: *Hospitaltid* 70: 1131, 1927.

seen in the fat of the abdominal wall before the cavity is entered. The peritoneal exudate, wine in color and varying from a few ounces to a pint or more, will be found chiefly confined to the upper right and mid-abdomen. Occasionally the fluid has not left the lesser sac. The exudate is a reactionary fluid from the irritant effect of the split pancreatic product on the peritoneal tissue. The omentum and the mesentery of the upper abdomen are covered with areas of fat necrosis. Archibald<sup>24</sup> recommended that the peritoneal exudate be left undisturbed, since it is protective in nature; or that a coffer-dam be thrown about the pancreas. Rather did he consider a preferable procedure to be to drain the biliary system and so prevent further entrance of the bile into the organ. Operative access to the pancreas is best attained below the greater curvature of the stomach through the gastrocolic omentum, or above the stomach through the gastrohepatic omentum, rarely through the transverse mesocolon.

In most severe cases the pancreas is a phlegmon, filled with blood, deep purple in color, and its capsule is under great tension. In less severe cases, the hemorrhage into the gland is only slight and patchy. The amount of exudate will be in proportion to the degree of pathology and may only be in sufficient amount to appear in the lesser sac or behind its posterior layer. Free incision through the capsule, well into the pancreatic duct, either with the aid of a scalpel or cautery, will permit free drainage, and be less damaging to the gland than blunt dissection. Soft cigarette drains are introduced through the head of the pancreas into the pancreatic duct in coffer-dam fashion.

The tensely distended pancreas is thus decompressed, and at the same time an exit is provided for the necrotic material.

The question of decompressing the biliary tract has to be answered by the individual case, largely depending on the condition of the patient and the type of pathology found in the gallbladder and the bile channels. Cholecystostomy is an operation of choice, with removal of all or part of the stones to permit the placement of a drain-

age tube in the gallbladder. To remove a common duct stone the duct is opened, whereupon drainage is provided either by the gallbladder or the common duct route. Cholecystectomy is followed by a larger mortality than cholecystostomy and should be considered only in most favorable circumstances. The surgeon is operating to save a life in jeopardy and not to cure a patient of gallbladder disease.

#### REPORT OF CASES

In a series of 6 private cases of acute pancreatitis necrosis, there were two deaths, a mortality of 33 1/3 per cent. Ages ranged from 24 to 68 years. The sexes were equally divided. The average duration of illness before operation ranged from a few hours to seven days. The four cases which recovered were operated on within 12 hours after the onset of acute illness. All of the cases had a decompression and drainage of the pancreas and biliary systems. In five of the cases the infection had broken through the capsule and there was evidence of well spread fat necrosis and free sanguineous fluid in the general peritoneal cavity.

Below is a report of a case of unusual interest, from the standpoint of etiology, pathology and autopsy findings.

(Mrs. T. J. A.)—white, age 65, mother of eight children. Past history negative for serious illness. For several years had had pain and fullness in the epigastrium following the evening meal. Often-times the pain extended to the back, occasionally to the right shoulder region. On the morning of the acute attack, after having eaten heavily of pork sausage, etc., and while over the scrubbing board taking care of the laundry, she was seized suddenly with an acutely agonizing pain in the epigastrium radiating to the back. She vomited a moderate amount of undigested food, and the pain was relieved in part by the hypodermic injection of 1/2 grain of morphine sulphate. The morphine injection was repeated to combat pain and she was admitted to the hospital. Twenty-four hours after the onset of the illness, when I saw her in consultation with Dr. W. J. Rosser, she presented the following picture: temperature 99 2/5, pulse 110, respirations 30. The respirations were short and superficial; there was an ashy gray color of the face and upper body. The abdomen at the site of the disease was moderately full, and there was great pain and soreness in the epigastrium, the pain and soreness extending into the gallbladder bed. Urine revealed a 2-plus sugar. Total white count was 18,400 per cubic millimeter, with 93% polymorphonuclears. Surgical intervention was advised and made approximately twenty-four hours after the onset of the illness, under ether anesthesia through an upper right rectus, paramedian incision from ensiform to well below the umbilicus, retracting the rectus muscle externally. When the peritoneum was exposed, areas of fat necrosis were found in the abdominal wall. On incising the peritoneum, a large amount of sanguineous fluid was found in the up-

24. Archibald, Edward: Footnote 7.



per middle and right abdomen, with areas of fat necrosis, varying in size from the head of a pin to that of a split pea. The gallbladder was under great tension, its walls thickened and inflamed.

The head of the pancreas was exposed through the gastrocolic omentum. The entire gland was enlarged, its color a red to purplish blue color and its capsule under great tension. The capsule was incised and iodoform gauze, reinforced with rubber tissue in the form of a drain, placed in the head of the pancreas. An additional drain was inserted in the lesser sac. A cholecystostomy was then done. The patient had a stormy convalescence for approximately two weeks when she began to show improvement in the urine picture, in heart action and in amount of nourishment taken.

Drainage from the pancreatic wound was copious, and for the first few days was a dark, sanguineous fluid, which later changed to a white or gray, thick material, with slight colon odor, containing large amounts of necrotic masses. The original pancreas drains remained two weeks, then replaced with rubber tube of good sized caliber. The gallbladder tube drain remained three weeks.

The patient died at the end of the seventh week following the operation. At autopsy the pancreas was found to be completely destroyed except for a small amount of tissue along the lower margin of the head. The canal was filled with necrotic material and purulent fluid. The infection had broken through the tail or splenic end with formation of a large abscess beneath the left diaphragm involving the spleen and upper pole of the left kidney. The dissection of the pancreatic and biliary ducts revealed a conversion of the ducts, approximately two and one-half cubic centimeters above the ampulla.

This case is presented to show the probable etiology which was brought out by the long standing history of gallbladder complaint, the intake of a heavy meal rich in fats, producing duodenitis, resulting in a spasm of the sphincter of Oddi and the gallbladder; the increased pressure within the biliary system brought on in the act of doing her work; the destructive effect of the necrosis on the pancreatic tissue, and the converging of the common and pancreatic ducts.

### CONCLUSIONS

- (1) The experimental and clinical findings in acute pancreatitis necrosis strongly favor the retrojection of bile theory as the chief cause of the disease.
- (2) Chronic gallbladder disease, duodenitis, the converging of the common and pancreatic ducts, and the physiologic change in the function of the sphincter of Oddi are the principal factors in the development of acute pancreatitis necrosis.
- (3) The disease is an autolysis of the gland, caused by the activation of

the enzymes within the glands; and transforming trypsinogen into trypsin.

- (4) The sudden agonizing epigastric pain radiating to the back, short quick respirations, ashy gray color, fast and low pressure pulse, and subnormal or minimum temperature characterize the initial clinical symptoms.
- (5) The differentiation of acute pancreatitis necrosis from other acute intra-abdominal infections is difficult oftentimes and exploratory laparotomy will be necessary for a diagnosis. It is indicated early in the disease before suppurative peritonitis develops.
- (6) The treatment is surgical. The earlier drainage is established for the pancreas and biliary system, the lower the mortality will be, providing the case is not the extremist. If so, conservative expectant treatment is better than any attempted surgery.

### DISCUSSION

*Dr. L. V. Stabler (Greenville):* Dr. Donald's paper is of interest to me, not only because it covers well an entity in medicine that is obviously on the increase but also because it offers to the average surgeon a clear cut description of a malady which has, until recent years, been considered a very unusual diagnosis; and a case that is so likely to fall into the unknown diagnosis class if not operated on, or into the exploratory laparotomy class if operated on by many surgeons.

Literature has been more profuse in the last five years than at any previous time on the diagnostic and surgical procedures attending acute hemorrhagic pancreatitis. We now have a definite system of symptomatic points to weigh—perhaps as definite as for any acute abdominal condition that does not permit of much delay in the application of remedial measures.

As a concrete result, we have a fall of mortality of from around 50 to 60 per cent to 20 to 30 per cent, as reported in the series of cases from several clinics, notably the reports from P. E. Truesdale who cites 54 cases operated on with 11 deaths—a 20.5 per cent mortality; and the Mayo Clinic with 17 cases operated on with 3 deaths, a mortality rate of approximately 18 per cent. This is attributed largely to early diagnosis.

I would like to call attention, a little more completely than did Dr. Donald, to the differential diagnosis of acute pancreatitis and acute appendicitis. In the typical case of acute appendicitis with

early radiation of pain from the mid-epigastrium to the lower right quadrant, with rigidity, there is no question. However, we have all seen, more than once, the unusual type of hyperacute appendicitis that comes on suddenly with sharp mid-epigastric or paraumbilical pain, with vomiting and no rigidity; and, while not in shock, the patient is knocked out and in a weakened condition; the blood count rapidly ascends and the polymorphonuclear cells attain a percentage of from 85 to 96 per cent within a few hours of the onset. The appendix is found very angry—perhaps gangrenous in type.

I have access to the records of one case, a female, age 29, that had such a sudden beginning. There was no rigidity. However, the pain into the back was typical, but it was also referred to the lower right quadrant, upper area. The temperature was low, the patient's state one of semishock, and there was no history of any previous complaint. The diagnosis was a puzzle to several physicians, but final opinion was in favor of appendicitis with recommendation to place the first incision line so that it could be extended to take care of any possible abdominal condition. The case proved to be acute hemorrhagic pancreatitis. It definitely simulated a possible appendicitis.

I believe the diagnosis of acute hemorrhagic pancreatitis can be made much more easily after a few cases are seen due, as many medical entities are, to that action, appearance, and reaction that can be associated with the disease but not described.

In treatment, I would like to add only this reassuring point to Dr. Donald's recommendation. The literature convinces me that most cases of acute pancreatitis have an associated cholecystitis that can be proven—actually the percentage is probably even higher than is proven. I believe a good rule would be to drain the biliary tract in all cases, unless definite evidence is present to contradict such procedure. The methods of choice are preferably a cholecystostomy and if the common duct is obstructed, regardless of cause, drain the common duct with a T-tube. This drainage should be continued for a relatively long period of time, probably at least 6 weeks. The question of drainage of the infected pancreas is of relatively minor importance. If it be an easily accessible, obviously distended gland, drain. If extensive trauma is necessary to expose the infection, I doubt the necessity of actually incising the gland.

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**Fever Therapy**—The rapidity with which the swelling and pain associated with gonococcal arthritis subsides during and after the first session of fever is astonishing. In cases in which the articular inflammation is acute the effect of fever therapy is really spectacular. In most cases thorough treatment is followed by complete and permanent resolution of the inflammatory process.—*Desjardins, Texas State J. Med., July 1935.*

## CHRONIC UNDULANT FEVER\*

A MORE CRITICAL CONSIDERATION OF THE NEURASTHENIC SYNDROME: HYPERTHYROIDISM AN UNDERLYING CONDITION

By  
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Mobile, Ala.

### INTRODUCTION

Because of an investigation of chronic undulant fever which the writer began two years ago after having observed the symptoms of neuroses in World War veterans, many of whom also showed low intermittent fever, the conclusions seem abundantly justified (1) that it is a very, very common infection and (2) that its manifestations are so protean and have so much in common with certain other infections, that it is hard for one to escape the conviction that overshadowing all other considerations regarding these patients is the question of allergy—simple or combined in its various expressions.

### TWO IMPORTANT UNDERLYING CONDITIONS

The allergic state with its accompanying metabolic disturbances and its traditional neurasthenic syndrome is essentially the same, according to the writer, whether due to chronic undulant fever, chronic tuberculosis, or the various focal infections. There is little difference. Such has been his observation, and from an extensive study of medical writings, he feels that there is much to sustain this assertion.

This melting-pot phase of allergy accounts for much confusion that exists in diagnosis; it has defeated progress generally because physicians laboring under the impression that infected tonsils, for instance, were undermining the vitality of the patient, often gave up in discouragement, when, after the removal of these organs, the allergic condition continued, because in fact, the allergy with which they were contending did not rest upon a single infection originally. If this idea of the superimposition of allergy by chronic infections is kept in mind, from it will flow a better understanding between the different specialties in medicine. To illustrate, a given patient might improve roughly 60% because of the cure of an undulant infec-

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\*Read before the Association in annual session, Mobile, April 16, 1935.



tion, 20% from the removal of bad tonsils and 10% more for the correction of each a prostatic and a dental infection. Thus each specialist could rightfully claim a share in the cure of the patient; jealousy and reintercrimination could be replaced by cooperation in the solution of these problems.

The reasonableness of this is apparent when one considers that it is the tissue which manifests allergy and that its reaction must in general be the same to related germs; the more chronic the infections the greater the sameness of the tissue reactions.

#### CHRONIC ACIDOSIS PROFOUNDLY AFFECTS METABOLISM

A marked degree of acidosis appears to be an inevitable finding in this class of patients. Because of these considerations it must be important; when one realizes the degree of readjustment necessitated in the body by a change of reaction, it is apparent that a seemingly unimportant thing can be such a determining factor for chronic ill health. While undoubtedly in these chronic infections we often have also to reckon with a chronic bacterial toxemia, the writer feels that if these two abnormal states are established in the body, they are sufficient to perpetuate symptoms even when the original infections are thoroughly attenuated. Once chronic acidosis is established, no infection is required to fan latent embers—it of itself is a diseased state. Thus we have introduced a basis of disease, due to infection; but not infection itself. Therefore, is it any wonder, that neurasthenia, resting upon this remote result of infection, should have so long masqueraded?

In view of the foregoing it would seem that a new conception of many of our chronic patients was in order; probably it is a fallacy to believe that everything medical must be either a hundred per cent physiological or a hundred per cent pathological. This erroneous conception of things no doubt grew up in the early days of medicine when men wrote enthusiastically on these two great subjects; but never gave a moment's consideration to a great intervening ground. To illustrate, the writer rather suspects that one hundred patients of the type he is speaking of might be found who

gave acid salivary reactions; all of the patients being free from any particular manifestation that would cause them to consider themselves ill. Now, acid saliva is not normal, although the writer would hardly style it pathological if not a single patient was aware of any abnormality. For this intermediate ground the writer proposes the term *Status Metaboli Perversi Compensatorii*.

It is likely that this condition can be recognized in the great majority of individuals. Let us take for example two persons and view medically their states of being: (1) a young man—undoubtedly but a small percentage of his bodily manifestations would be pathological; (2) an old man—here the manifestations would probably be 60% to 70% pathological and the remainder an expression of health as that term is roughly used. Should the lives of these individuals be plotted for study, in the first, very gradually there would appear slight evidences of disease, these increasing as his physiological vigor waned; the history of the older man would be similar in principle; in fact, for both there would be an ever shifting balance with the two factors in reciprocal proportions. It would seem, as the individual lives his life, the factor of infection more and more influences this balance. It is conceivable that a nice compensation can be attained and a fair state of health maintained in spite of patent perversions; it is more particularly where adjustment is not maintained that we get a disordered state, a very common consequence of which is the numerous breakdowns—conditions not so much of weak nerve centers as the result of disturbed lines of metabolism.

#### RESUME' OF THE WRITER'S STUDIES

There have been 207 cases, mostly young men, largely from the rural districts; all have shown positive skin tests and of 127 which were submitted to the agglutination test (low titer) with an antigen of unquestioned sensitiveness over 50% have been positive. Numerous cases have shown undoubted improvement from treatment with immune serum and undulant vaccines. In the histories of these cases influenza seemed to play a causative role in about 1/3rd of the patients. Sometimes adolescence,

mumps or measles immediately preceded the symptoms here spoken of. Chronic bronchitis and infections of the genito-urinary tract were active in some of the patients. Overwork and the changing of the individual's occupation seemed often to be exciting causes. As a class these patients were careless of personal hygiene and it is probable that with them focal infections were common. In practically all of them there were disturbances of metabolism; these expressions were increased acidity, an increase of ammonia in urine, a mild diabetes and toxic nephritis. The existence of any expressions of latent infections we do not emphasize. Neither sex nor occupation exerted any influence; the white man was apparently five times more susceptible than the negro.

Among symptoms, there were marked departures from the normal in complexion. Some patients were greenish, although most were florid. Then we had pale ones and some with slight cyanosis. The writer noted that the great majority manifested excessive perspiration on the slightest exertion, though there were a very few who sweated none at all. In weight the patient often lost incredibly within a short time. There was usually a moderate anemia. The whole body seemed to contribute symptoms, although emphasis is placed upon the heart and stomach. Peculiar attacks occurred; in these there were heart symptoms and the patients were terror stricken. Certain clearly allergic phenomena occurred; namely, bronchial asthma, cardio-spasm, and migraine. The patients usually showed early decay of the teeth. There was some instances of hyperthyroidism and a few cases of goiter. Rheumatism—muscular and in some cases chronic deforming conditions of the skeletal system—was noticed. Poor carriage, a peculiar gait, great fatigue and minor nervous complaints characterized many.

Among the more severe disturbances of the nervous system are numerous partial and transitory paralyses. The limbs of patients thus affected frequently quake and the facial muscles may be atrophic. It is obvious that in the patients of this series chorea takes up where neurasthenia ceases. The writer recognizes five varieties of this disease, including the Parkinsonian syn-

drome, myasthenia gravis and so-called sleeping sickness. While for these varieties there are probably special pathologies, there appears to be a general condition common to any severe case. A failure of spontaneous coordination occurs because of apparent changes within the basal nuclei; a natural, though indirect, consequence of this is a terrible cerebral fatigue—hence cases of pathological somnolence. Mental cases: Pathological ennuï is the basis of the great majority of the symptoms of these patients. In addition to this, especially in cases which have advanced to the stage of chorea, there is a peculiar agitation which grips the patient whenever he attempts any activity requiring muscular exertion; the same cases have a peculiar abstraction of mind. Emotional instability is another type of psychoneurosis which affects a few patients.

#### THE ENIGMA: WHAT PATHOLOGY UNDERLIES NEURASTHENIA?

While a classical description of neurasthenia is quite indistinguishable from the clinical picture which the writer has observed, it is a far step from morbid weakness of nerve centers to those basic metabolic disturbances emphasized above. No substantial progress is possible in the elucidation of neurasthenia unless its bewildering and ever changing list of symptoms is subjected to a very searching analysis.

The writer's first comprehensive paper<sup>1</sup> was in the nature of a report of a clinical study and necessarily was along orthodox lines as he sought in it to obtain an acceptance of chronic undulant fever; the present composition is an effort to go further, and to give an analysis of the neurasthenic syndrome. To this end we must forsake beaten paths—either the reader will have to accept, for the purposes of this paper, the existence of chronic undulant fever or else we will have to center our attention upon combined allergy of which undulant fever accounts for a large percentage. This latter alternative bespeaks an age incidence considerably above the average of the patients of this series.

1. Chronic Undulant Fever: A Pathologic Debility Often Resulting in Severe Nervous Disorders. By Eugene Thames, M. D. Published in five installments beginning in February 1935 issue of *The Medical World*.



#### ANALYSIS OF THE NEURASTHENIA SYNDROME

In every house cleaning, there is much that is rubbish which must be discarded before things can be put into order. It is significant that in the case of neurasthenia, excepting the very excellent clinical description of the typical type, the entire structure must be cast aside. Apparently writers observed correctly, but did not reason much. The backbone of the present conception of neurasthenia is that there is a congenital morbid weakness of the nerve centers.

#### QUESTIONING THE TRADITIONAL CONCEPTION

Our inquiry resolves itself into two questions. Does there exist a weakness of the nerve centers which is causative? In a period of sixty-five years, covering the vogue of this theory, certainly little or no evidence has been advanced to sustain this assumption. The nature of nerve function is such that even if weakness existed it would be a fault of some function behind the nervous system. For its purpose is to serve coordination of activity by providing the physical pathways for the intercommunication of the various parts of the body; along these lines flow the very essence of life itself. What corresponds to dynamos in an electrical system is probably the metabolic functions. In attempting to trace the neurasthenic weakness the writer feels that if any part of the nervous system is disturbed, it is the sympathetic portion. If a regulatory system is weak, the main expression of the function in question might be one of too much vigor; its long continuation would result in a dissolution, not weakness. In support of the idea of nerve weakness one would expect asthenia to be the first manifestation; and that rest would be curative. When fatigue begins to become evident the patient has usually well established metabolic perversions. In fact, from these the writer has sometimes been able to predict a nervous breakdown. Rest itself is rarely sufficient to effect a cure; in a few cases, it is reasonable exercise that they need.

Perhaps the chief evidence inveighing against an assumption of causative weakness is the finding that objective nervous symptoms do occur. So long as it was considered that neurasthenia had only subject-

ive symptoms, its proponents consider weakness an adequate explanation; such an assumption is unsatisfactory as an explanation of chorea.

#### IT IS CONTENDED THAT ANCESTORS SQUANDER ENERGIES OF CHILDREN

It is traditionally believed that the predisposition to this disease is inherited; that because of an ever increasing pace of urban life there is engendered a race born weak. While the writer doubts if it is possible to get an agreement among students of this question, it is interesting to note what light biology throws upon it. Biological teachings along this line are not uniform for there are several schools of thought. From Darwin's teachings, fast living would beget a weakened offspring, and in accord with the idea of the survival of the fittest, such a race would fall behind in the march of evolution and would finally be eliminated. According to Lamarck, placed under the environment of city life, the offspring would ultimately come to have nervous systems which would not notice the irritations of such a life, and in fact could thrive upon it. Inquiring further, heredity has to do with anatomical mutations and little is said about the transmission of functional peculiarities, although such a process might be inferred. The writer's inquiry into this has been rather unsatisfactory, although, it certainly did not establish the affirmative of the question; he would prefer to think of the offspring, according to the words of Mr. Herbert Hoover, which we paraphrase—"Fresh from the hand of God as strong as bucks." It is in that march to the grave which we call life that the individual becomes infected, gets allergic, bends and is weak—truly man's travail. It is frequently contended that impaired inheritance is a modern development; having to do with city life as has been mentioned before. Strumpell, writing to this question 25 years ago, states that while it is contended that modern life is nerve racking, in reality the present does not compare with the past in the horribleness because of wars and pestilence. The writer's cases were just about one-half rural. If this weakness is an inherited condition, the age incidence should be lower. The early thirties appear to be the optimum period for its development. There are learned discussions of neuro-

pathic inheritance; usually in these it is migraine begets epilepsy, when in fact migraine could equally well suggest endemic undulant fever and according to the infection incidence there are instances of neurasthenia in each generation.

As opposed to an inborn weakness the writer sees in man's inheritance an inalienable endowment of each individual by Nature of self-consciousness, a sustaining vigor and the prospect of longevity.

There has been peculiar reasoning as to exciting causes. For illustration, it is stated that the blowing of winds on the western plains is a cause of neurasthenia. No matter how hard the wind blows it will not create the essential underlying metabolic disturbance; but in reducing the bodily heat it can make a rheumatism much worse, and a patient outwardly nervous.

#### SIMPLIFICATION OF THE CLINICAL PICTURE

The writer feels that while our condition of neurasthenia is the result of chronic undulant fever, he is particularly studying that phase in which there are nervous symptoms due to an underlying basis—usually a metabolic disturbance. Therefore, any clinical condition which may be a direct result of infection is disregarded. After this is done the clinical picture is still much too large and it is his belief that this is because our traditional pictures of neurasthenia are really compilations representing hundreds of cases. Any certain case will not manifest all of the symptoms at one time. One should ignore all minor nervous complaints because of their relative lack of importance; and complaints of chronic muscular rheumatism and certain expressions of allergy may be passed over and assigned to underlying conditions already emphasized.

Two Types Par Excellence: In a series of many patients the cardiac and the gastric types stand out most conspicuously. While stomach manifestations somewhat rest on a foundation of metabolic disturbance, acid dyspepsia is usually undoubtedly neurotic. But perhaps it is the disturbed function of the heart which best illustrates the writer's idea. This organ gives as symptoms tachycardia, palpitation, arrhythmia, dyspnea, and sternocardia. Specifically, undue tachycardia occurs because

of the following exciting causes; muscular overexertion, emotional excitement, gaseous overdistension of the stomach, and sudden change of posture—influences, all of which affect the sympathetic nervous mechanism. In the involvement of this system one must picture more or less overactivity of the endocrine glands as resulting from their being whipped into action in an effort to maintain a balance in metabolism and organic action which has been lost because of a lack of regulation through other parts of the nervous system which have failed to act from some cause. In further explanation of this disturbance in the sympathetic system the writer would point out that there seems to exist to a greater or less degree in practically all cases some form of blocking of the motor tracts in the midbrain. Before presenting this theoretical block there should be given a reference to the comparative anatomy of the vegetative nervous system; for if it can be shown that this block does exist, the trouble with the neurasthenic patient is that impulses arising from the operation of his voluntary muscles are being thrown into the sympathetic, though this system was designed for the regulation of intrinsic affairs only.

#### THE VEGETATIVE OR SYMPATHETIC NERVOUS SYSTEM

The structure of the common earthworm (*Polygordius neapolitanus*) teaches that in addition to a neural cord and a brain that animal has a segmental nerve life enacted within each of its bodily compartments. The segmental life foreshadows the coming of the vegetative nervous system which is found in higher animals. During an evolutionary change, marked by an increasing predominance of the brain in the cerebrospinal system, which threatens to make of the nervous system of the sentient animal a structure more resembling a telephone system than a part of a living creature; to preserve the fast dwindling segmental or vegetative phase of the higher animal's life the sympathetic nervous system is inaugurated having jurisdiction, so to speak, over the business of living. In the lower animal the simple functions of life are not only divorced from the animal's activities with the external world but they



are of the simplest form. In man the same difference of scope exists, though all segmental lines are broken down, and the sympathetic nervous system has itself become complicated because of powerful endocrine glands, highly specialized in function, being placed at remote parts of the system, though intimately correlated by the interchange of hormones.<sup>2</sup>

#### EVIDENCE POINTING TO BLOCK

1. In neurasthenics the knee jerk is exaggerated, often markedly exaggerated. 2. When tired these patients feel that they have to force themselves to execute ordinary movements. 3. In cases of chorea if one prints upon a card the words "Your mind is bright" and flashes this card upon the patient, there will be seen an expression of appreciation, especially in the eyes. This response is immediate; although, it is some moments before they drawl out the word Y-e-s. It will be observed that the writer has adduced evidence from the disease chorea; however, it is his contention that the usual conception of neurasthenia is entirely artificial and that chorea is its logical development. In this same connection it should be remarked that exaggerated knee jerk which is an objective symptom does not fit in well with the contention that the symptoms of neurasthenia are subjective and due only to weakness. While the writer has not seen any special explanation of the knee jerk sign in neurasthenia it certainly indicates some degree of blocking along relaying reflex paths.

Explanation of Block: The writer proposes the following explanation of block. These patients do not come to the point of nervous breakdown without having suffered considerable physical impairment over a period of years. With them there has been relative overuse of disfunctioning muscles—either from rheumatism or myasthenia. The disease is all too common among physicians who no doubt have kept going when they should not have. It is believed that the basal nuclei serve automaticity of movements; the cerebral cortex only

initiating these and bringing them under volitional control. Victims of the disease who have thus wearied along probably develop an augmentation of the nuclei, most often for the lower extremities and it is believed that these increased areas are blocks. This would explain why knee jerk is the commonest clinical feature of neurasthenia. If a patient has used his upper extremities too much, then there develops reflex points in the arms. It would seem that particularly unfortunate are individuals who have reached the fourth or fifth decade with overgrown centers for the lower extremities, and then undertake activities which suddenly develop hypertrophies of other spots within the basal nuclei and who then suffer all kinds of transitory paralyses because of overcrowding of these structures. Although the condition of block is obviously noticeable when the midbrain has been generally choked out, still a definite block in some particular nerve function may have existed for years to a marked degree. Granting that the infection remains stationary, theoretically we would have no choreas if persons of the ages mentioned strenuously avoided either changing or increasing their activities.

#### THE VOLUNTARY MUSCLES MAY BE GROUPED UNDER FOUR HEADINGS

1. Muscles of the extremities, especially the lower ones, seem to be the least involved, although as has been mentioned a thickening of their representative areas may occur early and escape notice. 2. Muscles of the upper extremity, especially those supplied by the spinal accessory, seem more vulnerable—their use is especially fatiguing to the patient. 3. Muscles of the trunk show an almost complete failure in all severe cases. A common expression of this is that the patient becomes tangled in the bed-covers. The writer believes that these muscles normally derive practically all of their innervation from the automatic centers, and with excessive disease in these parts we have an explanation of this symptom. 4. Intrinsic muscles of the skull, as has been observed, become atrophic in many of the severe cases. It is natural that muscles, such as those of the face, would have a some what different arrangement of their nerve centers from those of the limbs.

2. Sympathetic Nervous System; Considerations Pertaining To. By Eugene Thames, M. D. Transactions of the Medical Association of the State of Alabama, 1924.

## THICKENING OF THE BASAL NUCLEI IN CHOREA

The evidence of pathological changes in these structures in chorea is quite objective and no longer may we theorize about their existence. Not only do competent authorities place the cause of the chorea in the opposite lenticular body<sup>3</sup> but the peculiar disturbance of spontaneous coordination observed by the writer must be due to similar pathology. These patients are normal enough until they begin some muscular exertion, then it is observed that their execution of any special movement becomes very, very slow or incoordinate. These patients have the power to do what they want to, but after a brief time it appears to be only by studied effort that they can accomplish anything. If the undertaking is exacting, they usually fail completely because their studied efforts bring on a terrible cerebral fatigue which renders ineffectual their efforts to volitionally direct their movements. In such severe conditions there usually exists some degree of paralysis which further hampers them. The writer here will quote from Joseph Collins<sup>4</sup> in describing one of his patient's movements: "But the feature that impressed the observer more than any other was the absence of elasticity, grace—call it what one will—in all her movements . . . Gradually she lost the capacity to use the left upper extremity without volitional effort. That is, when she made the effort to extend the left hand, pick up objects, button the clothes, etc., she succeeded in doing what she wished to, but this hand never entered into the performance of the innumerable movements of a normal person." There is no question that this writer is describing a condition of loss of automaticity. He mentions the buttoning of clothes. A large percentage of the writer's cases of chorea gave a history of buttoning their shirts at the wrong level. A further authentication of the writer's observation is found in Strumpell's description of neurasthenia.<sup>5</sup> "There is great phy-

sical weakness which is due to inadequate cerebral volitional innervation of the muscles." These words of this great writer are not so clear but undoubtedly he is speaking of the same thing: namely, cerebral fatigue.

This fixation of the attention and volitionalization of all movements gets the chorea patient in a high state of agitation when they exert themselves, for on such an occasion they can not give attention to the many circumstances transpiring around them. This condition is responsible for a statement which we many times read, "that the neurasthenic feels he is part of another world." Obviously they are able to do but one thing at a time. Patients thus afflicted have a desire to appear normal and will often act upon some circumstance that a normal person would hold in his memory. Thus the unfortunate choreic is easily diverted to some other line of activity; it is quite frequent to get a history of a patient who in making a railroad trip arrived at the wrong destination—this is not amnesia, because some line of continuity can be traced, although the patient must have been very absent-minded. These patients are often extremely awkward in any mechanical work; they think with normal rapidity, but their extremities at a particular time are executing some movement of a previous thought when their brain has moved to the next act. The only relief which they can get, in view of this block, is to slow themselves down. There is thus incoordination because of lack of synchronization between thought and action. On the faces of these patients there is a peculiar look of fixity of attention. Osler says that they can be recognized by a physician upon entering a waiting room; in their general demeanor there is a decided lack of harmony between their facial expression and their general activity.

Ordinarily even a neurasthenic can figure on a potential of energy, early in the day, of at least two hours; let him engage in a few moments of unusual muscular exertion and he has no potential whatever and is really done for for the rest of the day. This it is believed, as has been mentioned, is because impulses arising from exertion fail of regulation in the central nervous system—midbrain block being offered as an

3. Textbook of Physiology, Howell, 9th Edition, p. 229.

4. Arteriosclerosis: Its Relation to the Disease of the Nervous System and to Disorder of Its Function. By Joseph Collins, M. D. Transactions of the Medical Association of the State of Alabama, 1906.

5. Strumpell, Textbook of Medicine, D. Appleton's 4th American Edition, Vol. 2, p. 648, paragraph 2.



explanation of this; consequently these impulses are thrown into the sympathetic. Reasoning from analogy, these muscles are intimately related to that system.

In the general conditions of allergy with post-infection acidosis and midbrain block we have two fundamental disturbances in the neurasthenic, either or both of which upset the endocrine system and from this moment the condition is a formidable one with its disturbance of the carbohydrates, hyperthyroidism and essential hypertension, to say nothing of what the brain block does directly, neurologically.

#### DIAGNOSIS

The disease is very variable. Quite frequently in the beginning it was of the cardiac type, perhaps characterized by peculiar spells, then this all giving way to a gastric neurosis. Perhaps the case at first showed somnolence while later the complaint was chiefly of insomnia. The patient is subject to marked changes in weight. Many of the symptoms appear to come in waves—a characteristic of the fever curve which gave the name undulant; then over longer periods there seemed to be changes in the underlying metabolic state. Rheumatic manifestations may have been marked, only to entirely disappear later. Migraine probably is due to fluctuations in the abnormal acidity of these patients. Though quite disturbing to the patient the occurrence of migraine may denote an improvement following the administration of a specific serum. As the disease moves from part to part, severe pains may mark certain stages; melancholia may for a time characterize certain psychoneurotic symptoms; though only a limited period of a case may be thus characterized. It is said that as a case improves it is liable to fluctuate a great deal.

The average case is a problem in endocrinology. Probably, in general, disorders of these glands are characterized by a balancing of one's function against another although this offsetting is seldom perfect. Rather than a perfect antagonism there may be in certain lines synergistic action. The writer would recognize a general condition of endocrine disturbance in the majority of cases, irrespectively of how the balance is effected. There is a disturbance

of the carbohydrate metabolism. In a few cases there is clearly a hyperthyroidism. Of the chronic neurasthenias the writer does not recognize any special varieties.

**Confusion With Arteriosclerosis:** There are some who advance arteriosclerosis as explaining almost every clinical condition; in many respects this is regrettable, in undulant fever especially so for three reasons: (1) Arteriosclerotics may suffer from this infection. (2) In undulant fever cases there is often a hypertension, and without autopsy it is impossible to prove that some of the nerve changes may not be due to arteriosclerosis. (3) Dangerous hypertension may cause complete ennui. The age incidence of the cases of this series rather precludes the existence of arteriosclerosis; the complete relief of some patients by undulant serum speaks against it.

#### PROGNOSIS

One sometimes sees a condition of acute neurasthenia. This might result from some disturbance as the administration of ether; possibly it is an acute upset of the endocrine glands; it is characterized by a short course. Rest is usually all that is needed in such a condition. The limited duration precludes confusion with undulant fever. Prognosis naturally refers to duration and to the possibility of a fatal outcome; the chief interest is in the former. Not only does the disease manifest a dreary course but it is subject to relapse. Hence it is well to consider the possible existence of vicious cycles—especially in view of the delicate balance which the writer postulates in his *Status Metaboli Perversi Compensatorii*.

#### VICIOUS CYCLES

While the writer agrees that sexual neurasthenia and drug addiction are symptomatic expressions more than causes; that vicious habits are really expressions of a psychasthenia, still one should not lose sight of the fact that pernicious habits do lower the stamina of the individual and invite the repetition of the practice. While not agreeing that any symptoms of bodily organs are ever psychogenic, the writer would especially dissent from the idea that the depressed state of mind results in biliousness and that biliousness causes more depression. It is probable that from the disturbance of the carbohydrates we have

a loss of energy and that this causes muscular inaction which adversely affects proper combustion of sugars. There may be a subtle metabolic disorder which operates in this manner to a degree far more than is suspected. In the less tangible relations of the neurasthenic such influences probably prevail. A harassed business man, realizing that he is not efficient, redoubles his efforts only to fail the more. The psychoneurotic patients are often misunderstood and this aggravates any condition of emotional instability; because of industrial inefficiency these patients reach a state of destitution which certainly reacts upon them detrimentally.

#### SOME PATIENTS RECOVER SPONTANEOUSLY

If the condition is as common as the writer contends, many patients must recover spontaneously, although, for every such cure there may result many instances of neurasthenia gravis as well as others who become partial invalids, ascribing their conditions to various chronic diseases, especially diabetes. In fact, undulant fever may be so chronic that the relationship between the invader and host is almost one of commensalism; and the patient may regard his symptoms as the infirmities of age. To illustrate such a recovery, let us take the case of a middle-aged man of affairs: He gives up many activities, usually confining his business to one line and dropping all social responsibilities; he greatly simplifies his diet and eats less, usually choosing articles as fruits, vegetables, and special breads containing roughage. He foregoes tobacco and whiskey; sleeps and rests more; drinks water systematically and adopts new habits of exercise including long walks. Most likely he will become a disciple of Mrs. Eddy or McFadden. When such a delicate balance exists between health and sickness any one of these changes might turn the tide in favor of the sufferer. What probably occurs is that in the newly ordered life there is some shift of metabolism away from a vicious cycle. Muscular activity undoubtedly restores many sufferers. A patient may be able to state the exact day of his recovery.

Are persons ever thrown into a breakdown by causes innocuous in themselves?

Undoubtedly, the taking on of new activities, especially those involving the use of the upper extremities, have occasioned a severe neurasthenic state. The enforced inaction of some invalids seems to add a neurasthenic condition to their other infirmities. Many beggars on our streets are probably victims; where an individual is struggling against poverty, and suffers an added handicap, as in losing a limb, he will soon be observed to suffer more and more from a mounting allergy.

While it is generally believed that this condition has no mortality rate, the writer thinks that it does cause deaths from very severe pulmonary and nephritic infections, myocardial conditions, and pseudobulbar attacks.

#### HYPERTHYROIDISM

There is no doubt that a certain proportion of the chronic undulant patients whom the writer has studied manifested a hyperthyroidism. Until recently the occurrence of this condition seemed to the writer quite incidental; attention was attracted to the condition by a decided difference of type manifested by some patients. Because of the relatively few women in the writer's series, goitre was not frequent; and as exophthalmos is not always present the condition was not immediately self-evident. In the foregoing analysis the condition is not so important, but because of the great clinical interest in Basedow's disease it is entitled to special consideration in its own right.

While its fully developed form is characterized by rapid pulse, dyspnea, throbbing arteries, exophthalmos, and enlargement of the thyroid gland, there are the so-called "formes frustes." In these many lesser symptoms occur variously combined. Thus a case may show any of the following: tremor, great nervousness or restlessness; anxiety is especially characteristic. There may be instability of the emotions; sometimes there may be a slight elevation of the temperature or there may be only a sense of heat with flushing. Sweating is usually very marked; and uncontrollable vomiting may occur. Weight may be lost incredibly in a very short period. A tendency to asthma characterizes many; they appear nervous and often have a peculiar



stare. One can not say that these endocrine disorders are inflexible types and that the symptoms vary only in degree for in a seeming case of hyperthyroidism the element of hyposecretion may crop up.

To the writer, it is significant that if one studies a chronic undulant patient either from the viewpoint of neurasthenia and chorea or as a case of hyperthyroidism the student arrives at the same terminal condition, namely, pseudobulbar paralysis. Strumpell writes of "paralysis of deglutition" in hyperthyroidism; others, also of this and disorders of salivation.

In psychoneuroses it is believed that hyperthyroidism accounts for emotional instability. Thus in these particular chronic undulant patients one may recognize, in addition to an underlying psychasthenia, this disturbance of the emotions.

John M. Swan in writing upon hyperthyroidism constantly points to the frequency of such infections as influenza and typhoid in the histories of his cases.<sup>6</sup> In fact, he questions the so-called diagnoses of typhoid; and even proposes that the thyroid condition may engender a fever. The writer, however, does not agree with this, but he, too, does not consider that every severe fever is a typhoid. In somewhat the same connection DaCosta,<sup>7</sup> in a study of the condition of irritable heart among Union soldiers during the Civil War, showed that many of his cases followed fever and diarrhea. The Spanish War veterans whom the writer has examined invariably have shown marked neurasthenic symptoms, they attribute their ill health to fever and dysentery (?). Influenza and diarrhea were very common maladies in the A. E. F. The occurrence of the latter disease is not so well known, but it is possible that these soldiers suffered an intestinal "flu."

It can not be doubted that there was a heavy infection incidence among all of the troops mentioned and that endocrine disorders often rest upon a post-infection basis. The question of influenza is of the greatest

interest and it appears that it bears some relationship to undulant fever. Whether this is direct or a manifestation of combined allergy the writer does not know. However, many are dissatisfied with the bacteriology of influenza as it is understood today. Because an undulant infection can be so chronic as to seem second nature to a man and in view of the inability to cultivate the germ by ordinary bacteriological methods it is probable the infection has a prevalence not dreamed of. While the writer's clinical observation upon hyperthyroidism is rather limited, there is very strong theoretical grounds for believing that condition to be of germ origin.

### CONCLUSIONS

If this germ causes hyperthyroidism, it may be reasoned that infection plays a part in the etiology of exophthalmic goitre. Further, in view of the foregoing analysis, it would appear that chronic undulant fever does set up a perverted state of metabolism and is indirectly responsible for many a serious nervous disorder; for these the writer proposes the designation, Paraundulant Neurosis.

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Cancer must be found early if many are to be cured. But whether early or late, the management must be in the hands of the well trained. The radiologist must admit that surgery has an important place in curing cancer. The surgeon also can no longer ignore the results of radiation. While surgery some years ago reached its zenith in this field, radiation is still progressing. With increasing experience, new methods are being developed with great improvement in results. We as surgeons must keep an open mind and accept improvements as they are proven. Radiation is very dangerous as it is now generally used by the poorly informed and poorly equipped, but, on the other hand, in the hands of the well trained and well equipped, great things are being accomplished. Again, it is hardly possible to expect the surgeon to be an expert radiologist and to be familiar with the changing technic of x-ray and radium. Also, one does not expect the radiologist to be able to use the good points of surgery. Therefore, if the patient is going to have the advantage of everything that can be done for him, the surgeon and radiologist must work jointly.—Singleton, South. M. J., July 1935.

6. An Analysis of 50 Cases of Dysthyroidism by Jno. M. Swan, M. D., Vols. 2 and 3, 26th series of International Clinics.

7. The Heart and Its Diseases, J. M. Fothergill, Lindsay and Blakinston, 1879—Irritable Heart, p. 360. The Thyroid Gland, Clinics of Geo. W. Crile and Associates—Neurocirculatory Asthenia, p. 88.

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August 1935

## IN REGARD TO VITAMINS

"The other day I saw a woman with indigestion and a nervous breakdown. The story was puzzling until the husband explained, feelingly, that at each meal-time his wife wrangled with the children over the eating of spinach and carrots and the taking of cod liver oil until everyone at the table was exhausted and in a bad humor. Was this necessary? Will the children of this fairly well-to-do, middle-class American family come to grief if the mother stops stuffing them? I think the chances are that they will not." This true-to-life description of the havoc wrought by an over-zealous vitamin addict is the opening paragraph of an article by Alvarez<sup>1</sup> dealing with vitamin overdosage.

Alvarez says that "while I do not wish to minimize the value of modern dietetic research and its splendid discoveries, I still feel that we are passing through a stage of experimentation in which vitamins are being forced on children and adults without sufficient thought and understanding." He also states that we cannot lean too heavily upon animal experimentation and warns us that as yet very little is known as to how much of the several vitamins children and adults must take each day to remain in health and it is known that vitamin D in large doses is a poison and, therefore, should be administered with discretion. Instead, however, the reverse is apt to be true, because the purveyors of foods want an additional selling point. "Let us imagine a child who, to begin with, does not need extra amounts of vitamin D because he is

out in the sun all day. He is getting all he needs in his food, and his bones are growing straight and strong. But his well-intentioned mother is forcing on him large doses of the very powerful, irradiated ergosterol; he is getting more "D" in his pint or more of irradiated milk; the cows which supply the milk are being fed yeast and other substances to increase the vitamin content of the cream and butter; the baker is adding "D" to his bread, and, as I write, manufacturers of breakfast foods and chewing gum, and even cough drops, are all hastening to join the race."

Alvarez agrees that vitamins "are most important to the pregnant woman, the nursing mother, and the growing child" but sees "little reason for forcing them on people who are already living on a liberal and well-chosen diet." And his point is well taken when he reminds us that "some of the healthiest, huskiest, fattest children, with the most perfect teeth, are to be found among the uncivilized Eskimos who never saw a cow, a hen, a fruit or a vegetable. Living almost entirely on meat and fish, they get their vitamins by eating much of the food raw, and particularly by eating the inner organs, such as liver, kidneys and marrow." He also calls attention to the fact that recent clinical trials have cast much doubt on the assumption that the giving of vitamin A will prevent colds and other respiratory infections.

In an impressive manner the author calls attention to the rarity of definite avitaminosis among American adults, even in the poorer classes, and he insists that, when it is found, it usually occurs among cranks, food faddists and chronic alcoholics who endeavor to live by drink alone.

No informed or sensible physician will underrate the very great value of vitamins, but it cannot be denied they have been abused. And Alvarez has rendered a service in calling attention to these abuses in the splendid style that is his. The over-anxious mother, the advertising manufacturer and the thoughtless or illogical physician have done much toward aiding and abetting the excessive use of vitamins, and if the practicing physicians will heed Alvarez's excellent advice, much can be done toward placing the administration of vitamins upon a sound and sensible basis.

1. Alvarez, Walter C.: Is the Public Being Stampeded in Regard to Vitamins? *Am. J. Digestive Diseases and Nutrition*, 2: 128 (April) '35.



# TRANSACTIONS OF THE ASSOCIATION

## 1935 SESSION

(Concluded)

Last Day, Thursday, April 18

The Association, sitting as the Board of Health of the State of Alabama, was called to order at 10:30 A. M. by President W. M. Cunningham.

The report of the Board of Censors was rendered by the Chairman, Dr. E. V. Caldwell.

### THE SIXTY-SECOND ANNUAL REPORT OF THE STATE BOARD OF CENSORS INCLUDING ITS REPORT AS THE STATE BOARD OF MEDICAL EXAMINERS AND AS THE STATE COMMITTEE OF PUBLIC HEALTH

E. V. Caldwell, M. D., Chairman

The State Board of Censors has the honor, in conformity to constitutional provisions, to submit to this Association its Sixty-Second Annual Report. At the outset, it must be borne in mind that the work of this Board, as defined by the Constitution, falls logically into three broad subdivisions, to-wit:

(1) A State Board of Censors for the Association as a scientific body;

(2) A State Board of Medical Examiners, regulating, directing and enforcing the Medical Practice Act of the State;

(3) A State Committee of Public Health, formulating and directing, for this Association, which is the legally constituted State Board of Health, the broad policies of public health to be applied throughout the State.

In the presentation of this report, the sequence above outlined will be adhered to in so far as is practicable.

#### I. AS A STATE BOARD OF CENSORS

During the Association year just passed, momentous social problems of vital concern to organized medicine, while not altogether new, have been pushed conspicuously into the foreground because of an universal and all-pervading spirit of unrest. A sweep of bold experimentation, centering largely around material values, and heedless of traditional and spiritual things, has now unquestionably a free rein. We, as physicians, are no less endangered by these forces than are others; but we, as physicians, undoubtedly have a peculiar duty to perform to society in an effort to wholesomely leaven these tendencies with a goodly portion of those rich heritages of the past to which our profession, more than any other, has fallen heir. No other group holds, to organized society, a position similar to ours. In order that our efforts may be productive of lasting good and our leadership be unquestionably accepted, we can afford neither to abandon tradition nor descend into the market place. The Board feels that there is now greater need than ever for a firm adherence to the principles enunciated above on the part of every member of this Association.

### *Views Of The American Medical Association On The Socialisation Of Medical Practice As Expressed In The Called Meeting Of The House Of Delegates February 1935*

Each county medical society in this State has been furnished a copy of the resolution as finally adopted by the House of Delegates of the American Medical Association at this meeting, called for the purpose of ascertaining and registering the consensus of opinion of the profession of the United States regarding certain social security legislation then pending in Washington and in which the entire profession has a vital interest. In addition to this, the March issue of the State Journal carried copies of this resolution and of other pertinent material, as well as a rather full explanatory editorial. This Board has given careful consideration to the content of these documents and to the views set forth therein; and, entertaining, as it does, the views just expressed above as to the value of our professional traditions, recommends the approval by this Association of the position assumed by the House of Delegates in the matter of compulsory, nation-wide, health insurance. The Board further directs attention to that portion of the resolution which stresses need, on the part of state and county medical societies, for intensive study and the working out of plans for the better distribution of medical services as these pertain to individual states and communities, and suggests that our Committee on Legislation and Medical Economics continue its studies and experiments in this important field. The Board ventures to further point out, more particularly for the smaller and more rural areas, the great need and value both to the profession and to the people of some sort of hospital facilities for these communities and that the medical profession encourage and promote a program of county or municipal hospital building for those communities needing such service.

### *The Future Of The Health Department And Pending Legislation*

Every member can vividly recall the pall cast over this Association two years ago in Montgomery when this Board, after a careful review and study of the funds being made available by the State to the Health Department for the prosecution of health work, was forced to recommend to this Association, the duly constituted State Board of Health, that it instruct the State Health Officer to immediately discontinue all activities not coming within the police powers of the health department. As a consequence, essential and worthwhile activities, built up throughout the years, crumbled, and the personnel of the entire department was pared to the bone. Because of the State's shrunken revenues, this situation persisted for more than a year, during which time no thought of rebuilding

or expansion could be entertained. Fortunately, during this period, the Federal Government, through its work programs to relieve unemployment, made available certain funds and projects, which the Health Department, because of its already efficiently organized machinery, was in position to utilize to excellent advantage. During the fiscal year 1933-1934 the amount made available by the State and spent, including the amounts given to the organized counties, *which sum was more than forty-five per cent of the total*, was \$287,362.40. This represented seventy-two per cent, approximately, of the reduced appropriation which had already been cut forty-two per cent by the Legislature. With the beginning of the present fiscal year—October 1st, 1934—the amounts of the reduced appropriation actually being made available by the State for health work are improving to an extent which justifies a beginning program of rebuilding for the Health Department. The number of full-time county health units which fell from a high point of 54 in 1932 to a low point of 46 in 1933 has risen to 53, with fair promise of several others being added within the near future. As the Board views in retrospect the vicissitudes through which the Health Department of this State, grown to imposing stature by reason of the joint efforts of an unselfish medical profession and of far-seeing and liberal legislatures, has passed, it cannot refrain from an expression of deep appreciation both to the rank and file of the medical profession whose continuing interest and support made these outstanding achievements possible, as well as to our executive officer and his loyal and efficient staff who have borne the brunt of the burden during this unprecedented financial crisis.

The Association's interest in the health problems and Health Department of this State is a real and vital one, because of its actual and legal integration into its working machinery; consequently, its counsel and aid should be freely given and sought in all legislative matters bearing on health and medical licensure. The exceptionally cordial and cooperative spirit always manifested by this Association to the succeeding legislatures should be continued and fostered, so that individual members may feel free to approach, discuss and advise with their representatives on important legislation which this Association is sponsoring. In the March issue of the State Journal this program is rather fully presented, more particularly as it pertains to the bills dealing with lens, rabies, eugenic sterilization, tuberculosis and the hardships dealt the Health Department through the present drastic provisions of the Harrison salary cutting bill. In view of the important responsibilities resting upon this Association in all legislative health matters, there is real need for its members informing themselves on these topics and for making personal contacts with their representatives before they again assemble on April 30.

The Board, therefore, recommends to this Association that it place itself unequivocally on record as endorsing the forward-looking legislative program now being sponsored for the betterment of health conditions in this State, as well as giving its support to the procuring of an adequate appro-

priation through the Legislature for the conduct and expansion of a sound public health program whose activities shall stretch to the remotest parts of our Commonwealth.

*The Board's recommendation was adopted by the Association.*

### *Election Of State Health Officer*

The Chairman directs attention to the following section of the Constitution of the Medical Association of the State of Alabama. Section 6, Article XIII of the Constitution reads as follows:

"The board shall elect from the College of Counsellors, by not less than a majority vote of its members, an executive officer to be known as the State Health Officer, and shall submit the name of the officer so elected to the Association (the State Board of Health), in annual session, for confirmation."

In conformity to this provision of the Constitution, the Board submits to this Association for confirmation the name of Dr. J. N. Baker to serve as State Health Officer for a period of five years.

*The election of Dr. J. N. Baker as State Health Officer was confirmed.*

### *Relative To Salary Of State Health Officer*

Whereas, The Association recognizes the important duties and valuable services of the State Health Officer to the citizens of Alabama which are all the more outstanding considering the greatly reduced appropriation for public health work, and

Whereas, It is the opinion of the Association that the present small salary of the State Health Officer is not commensurate to the service he renders and the great responsibility placed upon him, therefore, be it

*Resolved*, That the Legislature be urged to give this matter the proper and due consideration it deserves.

*The resolution was adopted by the Association.*

### *Mandamus Suit Of State Health Officer*

It will be recalled that at the last annual meeting of this Association the mandamus suit which the State Health Officer, upon the recommendation of this Board, entered against the State in order to determine the exact status of this officer to the State and to this Board, had not been finally passed upon by the Supreme Court. The rehearing which had been asked for was denied by this Court and the majority opinion previously rendered, that this executive was an officer, not of the Board, but of the State, became law. In the prosecution of this case through the lower and higher courts, the cost amounted to \$95.30 which was paid by the State Health Officer. However, the Board feels that, inasmuch as this suit was brought for the purpose of legally determining the exact relationship of the executive officer of this Association to the State and that much of consequence hinged upon this decision, this expense would be a justifiable charge against the funds of the Associa-



tion and, therefore, recommends that the Treasurer be authorized to reimburse the State Health Officer for the amount of the court costs out of the funds of this Association.

*On motion, duly seconded, the Association approved the recommendation of the Board.*

### *Stability For County Health Work*

Alabama's outstanding system of administering and dispensing health work on a county basis has steadily grown throughout the years and has amply proven its soundness and worth. Two years ago fifty-four of the sixty-seven counties were enjoying the benefits of organized health service; this represented nearly ninety per cent of the State's population; at present the Board is happy to report there are now 53. These results have been accomplished entirely on a voluntary basis, in so far as county participation is concerned; once a county decides in favor of health work and voluntarily appropriates a sufficient amount, the State Health Department makes its contribution and proceeds to aid in the setting up of the necessary machinery. It has been because of this liberal state subsidy that county health units have been built up in many of our poorer counties and this aid must be continued. During the past year, and when funds actually available for all health work were greatly reduced below the amounts appropriated by the Legislature, more than forty-five per cent of this total was immediately given to counties in the form of state subsidy for the support of their local health units. The urgent need for such service is now so great, and its benefits so far-reaching and proven, as to seem to justify its removal from the optional or voluntary category and placing it among the necessary activities carried on in each and every county. In short, has not the time come to still further stabilize health work within the county by creating a definite basis of appropriation to be made for the specific item of health work? This is a question to which the Board has given considerable study and it feels that, in many particulars, such a stabilizing law would have much to commend it. Already one county—Conecuh—is operating under a local bill which provides that one-half mill special tax be levied and collected to be applied exclusively for public health work. This act has been declared constitutional by the Attorney General of the State.

Further, in the development of a state-wide program for dispensing full-time health work, the Board has requested the State Health Officer to give consideration to the feasibility of combining two or more counties, where geographical and political conditions might make such combinations possible. The law already makes provision for the conduct of health work on such a district basis, when its application appears to be sound and workable.

In the light of these facts, the Board, therefore, recommends that this Association go on record as approving, in principle, the stabilizing of county health work for the entire State through suitable legislative enactment.

*The Board's recommendation was adopted.*

### *State Contract For Biologicals*

As is well known to the members of this Association, the Health Department, in order to make available, at reduced prices, certain biologicals not manufactured in its own laboratory for free distribution, has seen fit to enter into contract with one of the manufacturing biological houses for this purpose. For some years this contract has been awarded the Gilliland Laboratories, of Marietta, Pennsylvania, whose services and products, during this time have proven satisfactory in every way. Immediately upon the appearance on February 2nd, 1935, in the lay press, that there was question as to the dependability of the products put out by this firm, the State Health Officer got in touch with Dr. G. W. McCoy, Director of the National Institute of Health, to which Federal agency is assigned the responsibility of checking, standardising and controlling all biological products in the United States. After careful, personal investigation of this matter by Dr. McCoy he reported to the State Health Officer that he found nothing which would justify any action regarding the Gilliland Laboratories; further, that specimens of biologicals furnished him from the stock on hand in Alabama had been tested as to purity and potency and found to be satisfactory. This information was promptly transmitted to all county medical societies and county health officers by the State Health Officer on February 13th, 1935, and will also be found at page 336 of the March issue of the Association's Journal.

In the light of the investigations which have been made by the Health Department, no evidence has been adduced which should shake the confidence of the profession, of this Board, or of the Health Department, in the products of the Gilliland Laboratories, nor to justify a change of the present contract existing between these laboratories and the Health Department.

### *Postgraduate Courses For Physicians*

The Board is keenly alive to the need and value of postgraduate work to every physician, in order to keep fully abreast of scientific progress and to be in position to render a maximum service to his patients. The difficulties of procuring these much needed advantages for many physicians are, in some instances, almost insuperable. Consequently, the Board has always viewed with favor any plan through which the newer things in medicine might be made easily available to physicians and with little or no loss to them in time or money.

Quite recently, through the efforts of this Board and of the State Health Officer, the Federal Children's Bureau in Washington has offered to finance, in large part, a two-months' course in pediatrics, to be held at various points in the State, provided this Association would agree to underwrite a comparatively small portion—\$300.00—of the cost. It is planned that this course will be held during the ensuing summer months and will be conducted by an outstanding pediatrician, trained in teaching methods. The Board, therefore, recommends to

the Association that it be authorized to make this expenditure for the purpose stated above.

The Board should like to go even further. During the past year or more effort has been made on its part to encourage one or more of the philanthropic agencies, such as the Milbank and Kellogg Foundations which are peculiarly interested in the promotion of refresher courses for practicing physicians, to lend their cooperation to Alabama in this work. The plan generally adopted in most states has been a joint one between the Foundation and the State Medical Association with a small fee being charged the physicians attending the courses. In order to be in position to take advantage of such opportunities as might develop in the future, looking to the further development of postgraduate courses, it is recommended that the Association place at the disposal of this Board a certain amount of Association funds, not to exceed \$300.00 per annum, to be utilized in providing postgraduate courses for the physicians of the State, if and when, in its opinion the expenditure of a part or all of this amount seems wise and sound.

*The recommendation of the Board was concurred in.*

### *The President's Message*

(Page 19—July Journal)

The President opens his message by felicitating the Association upon again being given the privilege of holding its annual gathering in the quaint and historic old City of Mobile, from which source has come much of Alabama's most illustrious medical talent in the past.

Next follows a broad, yet sane and sober, discussion of some of the socio-economic problems which are now presenting and for which lawmaking bodies, National and State, are striving to find solutions through legislative enactments. He more specifically directs attention to those having a direct bearing on the medical profession and the socialization of medical practice such as the Epstein, Wagner and Group Hospital Service bills, and wisely cautions against precipitous action or hurried change from the old order. He also points out the need of the medical profession in its respective communities endeavoring to bring about more uniformity in the matter of fees to be charged by reputable physicians and surgeons for comparable services.

There next follows a dignified and vigorous onslaught on fee-splitting and criminal abortion and the President exhorts the organized profession to exhaust every means to purge its own ranks of offenders, and suggests that the Committee on Legislation and Medical Economics collaborate with the Board of Censors in an endeavor to have enforced the statutes now covering these abuses.

The Board is in entire accord with these views expressed by the President.

#### FIRST RECOMMENDATION

The next section of the President's Message is in the nature of a specific recommendation, to-wit:

(1) That the actual expenses of the Jerome

Cochran Lecturer be defrayed each year out of Association funds.

Inasmuch as the Board, on many previous occasions, has persistently and eloquently argued against this recommendation, apparently with no avail, it now graciously yields to the seeming wishes of this Association and recommends that an honorarium of \$100.00, annually, be made available out of Association funds for the purpose of defraying the expenses of the Jerome Cochran Lecturer; this action to be retroactive in order to grant the honorarium to the lecturer of this year.

*The Association concurred unanimously.*

#### SECOND RECOMMENDATION

The second and last recommendation by the President is to the effect that this Association defray the actual expenses of its delegates to the annual meeting of the American Medical Association. The Board feels that the services to be rendered to this organization through its representation in the national body are of such paramount importance as to make this recommendation take precedence over some others carrying additional expense. Therefore, it recommends that an amount not to exceed \$75.00 for each delegate be allowed by this Association in the defraying of his expenses to the annual meeting of the American Medical Association.

*The recommendation was adopted.*

#### CONCLUSION

The President next directs attention to the fact that Alabama's representation in the House of Delegates of the American Medical Association, because of our receding membership, has been reduced from three to two and urges that county medical societies exert themselves not only to increase their membership by adding all physicians who are eligible, but also to give support to the American Medical Association and to study and read, next to their own State Journal, the Journal of the national body.

The President closes his message with an expression of deep appreciation to the members of this Association for the high honor bestowed upon him and for the unstinted and loyal support extended to him during his incumbency.

*On motion, duly seconded, the report of the Board on the President's Message was adopted as a whole.*

### *Joint Report Of The Vice-Presidents*

(Page 21—July Journal)

The joint report submitted by the four Vice-Presidents reveals the fact that each of these officers has held at least one district meeting of the county medical societies within his territory and, in most instances, two were held. At each of these meetings the attendance was good and many important medical and scientific topics were discussed. The Board urges the Vice-Presidents to continue their efforts to further increase the membership of the county medical societies by bringing into them all eligible and ethical practitioners and



to stimulate greater interest in the economic and sociologic problems now presenting in every county and community.

These reports are entitled to the approval of this Association and the Board so recommends.

*The Association adopted the recommendation of the Board.*

### *Report Of The Secretary* (Page 22—July Journal)

The Board finds that the books and records of the Secretary of the Association are complete, accurate and entitled to your approval.

*The Association approved.*

### *Report Of The Treasurer* (Page 22—July Journal)

The Auditing Committee from the Board, after careful examination and review of the books of the Treasurer, finds them in excellent order and entitled to your approval.

*The report of the Treasurer was approved.*

### *Committee On Publication* (Page 25—July Journal)

The Board takes pleasure in commending this Committee for the uniform excellence manifested in each issue of our State Journal and feels that the work of this Committee, as revealed in its report, is entitled to the approval of this Board and of the entire membership of this Association.

*The expression of the Board was concurred in.*

### *Reports Of Standing Committees*

#### Foreword

The Board has carefully reviewed the reports of the several standing committees of the Association submitted through their respective chairmen and desires to express its commendation for the excellence and thoroughness with which these reports have been presented and their respective fields encompassed. The Board is happy to note the marked improvement and interest manifested by each one of these committees, and feels that this Association should spare no effort to increase the productivity and usefulness of each.

Experience shows that better results usually accrue from small committees carefully selected than from large committees distributed over a wide area primarily designed for political reasons. With these thoughts in mind the Board recommends that the Committee formerly known as the Standing Committee on Legislation and Medical Economics, which name, upon the recommendation of this Committee, is to be changed to the Standing Committee on Public Relations, be reduced from nine to five, with the President, the Chairman of the State Board of Censors and the State Health Officer as ex-officio members. The Board further recommends that the membership of the four other standing committees be reduced from five to three and that the personnel to serve on each committee

thus reduced shall be appointed by the incoming President in conformity to the ordinance of this Association creating standing committees, and after consultation with the chairman of each committee.

In order to further expedite the working of these several committees it is recommended that each committee be allowed, for the purpose of defraying actual travel expense of its membership, an amount not to exceed \$10.00 per member when, in the opinion of the chairman of a committee, it would seem advisable to hold such meeting at a time other than the annual meeting of this Association; it being the intent of this recommendation to provide for the travel expense of those members of each committee actually attending one committee meeting when called by its chairman.

*These recommendations of the Board were approved.*

#### 1. LEGISLATION AND MEDICAL ECONOMICS (Page 28—July Journal)

During the past year the work of this Committee, because of the many activities sponsored by the Federal Government in the matter of extending various forms of relief to dependents, has likely been of more immediate concern to the members of this Association than any other. Appreciating its responsibility in this regard, this Committee has been untiring in its efforts to promote a better understanding and a closer cooperation between the relief forces and the medical profession whose services, at every turn, had to be made use of. To further expedite this phase of relief work, this Board cooperated with the Committee on Legislation and Medical Economics in the selection of a suitable physician to serve as medical adviser to the State Relief Administration in the effort to harmonize and perfect the medical services of the relief program. Unquestionably much good and more sympathetic understanding have resulted from the labors of this Committee.

This report directs attention to the fact that persistent effort must be put forth by the organized profession in each county in order to solve its local problems and enumerate certain activities of an eminently worth-while nature which should engage the attention of all county societies. The Board urges that each county society carefully study these suggested activities and incorporate, at least a part of them, into the society's program.

This report closes with the five following recommendations:

1. That the name of this Committee be changed from The Committee on Legislation and Medical Economics to The Committee on Public Relations.

The Board is in accord with this suggestion and recommends that this change in name be made.

2. That this Committee be allowed certain monies from the Association to pay the expenses of its members in attending at least one meeting per year.

This recommendation has just been covered by the adoption of the preceding section of the Board's report.

3. That Vice-Presidents in arranging district meetings have a representative of this Committee on each district program.

4. That all State institutions that treat or care for physically or mentally handicapped individuals have a physician on their boards.

The Board heartily endorses and recommends the approval by the Association of the third and fourth recommendations of this Committee.

5. The fifth recommendation made by this Committee is in the form of a resolution and reads as follows:

Whereas, The present ordinance of the Medical Association of the State of Alabama looks with disfavor and probably prohibits hospital insurance, and

Whereas, The emergency of economic conditions requires and demands a readjustment and a compromise on principles that were tenable in years past, and

Whereas, There must never be an acceptance of combined hospital and medical services under any plan, therefore be it

*Resolved*, By the Medical Association of the State of Alabama, that hospital insurance that deals exclusively and only with the matter of hospitalization of the sick would be considered ethical; and be it further

*Resolved*, that any form of hospital insurance adopted by the hospitals of Alabama must be equitable to all and each hospital in the State; and be it further

*Resolved*, that hospital insurance under such guarantee shall be approved by the said Association; and be it further

*Resolved*, that any and all such plans for hospital insurance that are formulated by any one or group of hospitals be submitted to the Board of Censors of the Medical Association of the State of Alabama for approval.

The Board is fully aware of the acute need for working out some fair and ethical plan of hospitalization which will distribute more evenly the cost of such hospitalization for a large section of our population and is in hearty accord with the sentiments expressed in this resolution. In order to accomplish such purpose the Board feels that the present ordinance of this Association governing contract practice should be changed in certain particulars and that there should be added thereto an amendment dealing specifically with group hospital insurance. It, therefore, recommends that Subsection 2 of Section 2 of the ordinance dealing with contract practice be stricken out and that the section be made to read as follows:

That a physician shall not, without violating the ethics of the profession, contract to perform medical or surgical service in a hospital or clinic with hospital service which does not conform to the ordinances of this Association now regulating group hospital insurance or which may hereafter be adopted by this Association.

The Board further recommends the adding to the present section of the ordinance dealing with contract practice the following amendment:

*Be It Ordained By The Medical Association of The State of Alabama:*

That any plan for providing hospital services on the insurance basis which deals exclusively and only with the hospitalization of the sick will be considered ethical, provided that the contract entered into between the institution and the patient shall be uniform, in every phase, throughout the State, and shall have the approval of the County Board of Censors and of the State Board of Censors.

*It was moved and seconded that the recommendations of the Board be adopted. After discussion, the motion prevailed.*

## 2. MATERNAL AND INFANT WELFARE (Page 25—July Journal)

This report is divided into two parts: the one dealing with maternal welfare being submitted by the Chairman, Dr. A. E. Thomas, of Montgomery; and the one dealing with infant welfare being submitted by Dr. Hughes Kennedy of Birmingham.

These reports reveal that an exceptional degree of interest and activity has been manifested by this Committee in both the important fields consigned to it. The Board desires to direct particular attention to the references made by this Committee to the indiscriminate application of the operation cesarean section. The indications for this operation are usually quite clear and based on definite or imperative pathology which should constitute the guides for its employment. It is particularly gratifying to the Board to learn of the splendid cooperation being given by this Committee to our Health Department, especially to the efforts being put forth through the Bureau of Vital Statistics and its program of midwife control. This report closes with the following recommendations to county medical societies and to county health officers which are designed to promote greater efficiency and better understanding and cooperation between all interested workers in the field of maternal and infant welfare:

1. That every organized county cooperate with the Committee in putting over "Mother's Day Program."

2. That, in order to curb the activities of the midwife, every county health officer be instructed by the State Health Department to seek out every white pregnancy and that it be their further duty to see that they receive medical care.

3. That every county health officer, acting in cooperation with the local doctors, be instructed by the State Health Department to organize prenatal clinics that will operate in conjunction with new county hospitals that have been built and that are to be constructed in the near future. The State Committee will furnish necessary information.

4. That one day be set aside by each county medical society for the presentation of obstetrical papers, cases, etc.

The Board approves these recommendations and this report and commends them to the careful study and consideration of the members of this Association.



*It was moved that the word "instructed" in the second recommendation be changed to "urged." The motion was adopted.*

*The report of the Board as amended was concurred in.*

### 3. COMMITTEE ON CANCER

(Page 28—July Journal)

This report shows that members of the Committee have been steadily at work throughout the year endeavoring to promote a greater interest in the important subject of cancer prevention on the part both of the physician and the layman. This Committee recommends, and the Board approves, not only the appointment in each county medical society of a local cancer committee, but also the employment of all ethical means of publicity, such as lectures, newspaper articles and radio talks, properly sponsored by the medical profession for the wider dissemination of the scientifically known facts bearing on the prevention and cure of this disease. The attention of the members of this Association is again directed by this Committee to the importance of curbing the activities of the so-called "cancer doctor" who continues to prey upon the credulity of the public.

The Board recommends the approval of this report.

*The report was approved.*

### 4. MENTAL HYGIENE

(Page 27—July Journal)

This report reveals a commendable activity on the part of all committeemen along the lines of educational promotion of the specialty of mental diseases amongst physicians and more particularly an enthusiasm and interest in promoting suitable legislation for the sterilisation of the heritable unfit of the State now under consideration by the present Legislature. This legislation has the unqualified endorsement both of the Committee on Mental Hygiene and of this Board and should likewise have the support of the entire membership of this Association.

The Board recommends the approval of this report.

*The recommendation of the Board was adopted.*

### *Resolution By Dr. D. L. Wilkinson*

(Page 69—August 1934 Journal)

One year ago Dr. D. L. Wilkinson, of Birmingham, introduced the resolution cited below, which seeks to amend certain sections of the Constitution:

"Add to Article 6, Section 6 of the Constitution—It is the intent of this Section to exempt Life Counsellors, by virtue of their services, from all future compulsory obligations to either the Medical Association of the State of Alabama or to the County Medical Society to which they may belong,

except that they shall be amenable to the County Medical Society to which they belong for either immoral or unprofessional conduct or for malfeasance in office.

"Add to Article 6, Section 11—If a Counsellor shall remove from his Congressional District into another Congressional District after 10 years of service as a Counsellor, he shall notify the Secretary of the Medical Association of the State of Alabama, naming the Congressional District, the county and the postoffice to which he has removed. Upon receipt of this notice, it shall be the duty of the Secretary of the Medical Association of the State of Alabama to transfer by certificate the membership of the removed Counsellor to the Medical Society in the county to which the Counsellor has removed, notifying the Secretary of the local County Medical Society of the transfer. The transferred member shall be subject to all the rules and regulations of the Society to which he has been transferred.

"Add to Article 11, Section 4—The Secretary of the Medical Association of the State of Alabama, upon receipt of information of the removal of a Counsellor from one Congressional District to another, shall transfer removed Counsellors in accordance with Article 6, Section 11.

"Add to Article 14, Section 3—Counsellors shall not be discriminated against by County Medical Societies. Ethical relationship, duties, responsibilities, penalties and fees shall be the same as ethical relationships, duties, responsibilities, penalties and fees of other members."

Article VI of the present Constitution deals quite fully, in 14 sections, with the College of Counsellors. All discussion pertaining to this unique group of one hundred members must hold clearly in mind the purposes for which this Body was created. Briefly stated, it was to give solidarity, cohesiveness and permanence to a scientific body—the entire State Medical Association—to better enable it to discharge its important legal responsibilities as a State Board of Health and as a Board of Medical Licensure. Were it not for these responsibilities, there would be no need for the College of Counsellors. The added financial burdens, as well as the other constitutional requirements and demands placed upon the members of the College are likewise all for this purpose. Our present constitution wisely makes provision for the lifting of the more exacting demands made of the College after a long period of faithful service to the Association—twenty years. However, this constitution does not, and should not, attempt to suggest to the individual county medical society how it shall deal with its membership, whether Counsellors or members. The regulation of the ethical relationship and of dues and penalties is the inherent right and prerogative of county medical societies, and does not call for action on the part of this Association unless abuse or inequities are clearly shown to exist. However, the Board feels that each county medical society, in order to lighten the financial burden of its oldest members, whether Counsellors or not, might, with propriety,

think in terms of applying the principle adopted by this Association dealing with Counsellors, after a continuous and faithful service for a given period of years. In fact, quite a few of the county medical societies have incorporated into their by-laws provision for relieving their oldest members of all obligation, financial and otherwise, and such procedure affords a logical method of solution for any supposed injustice to Counsellors hinted at in the resolution.

In the light of the above presentation the Board does not feel that an amendment to the Constitution is necessary in order to rectify the conditions enumerated in the resolution, and, therefore, declines to give endorsement to it.

*It was moved and seconded that the recommendation of the Board be concurred in.*

*Dr. J. R. Garber's motion to table did not receive a second.*

*The motion to concur was discussed by several members of the Association, whereupon, on call for the question, the recommendation of the Board was sustained.*

*The report of the Board, as a Board of Censors, was adopted as a whole.*

## PART II

### REPORT OF THE BOARD OF CENSORS AS A BOARD OF MEDICAL EXAMINERS

In submitting this part of the Board's report, occasion is here taken to point out the grave legal responsibilities resting alike upon this Association and this Board in the matter of regulating and enforcing the Medical Practice Act of the State. The present high standards of the medical curriculum prevailing in all orthodox medical schools given recognition by the Council on Medical Education of the American Medical Association—graduation from such schools being a prerequisite for all regular practitioners in this State—are such as to assure adequate training in the basic things of medicine required of any one seeking to treat diseases of human beings. While this task of determining, through written examination, the fitness of certain applicants, constitutes one of the routine functions of the Board, made mandatory by law, it, by no means, constitutes its chief or most important duty. More applicants now come into Alabama through reciprocity than through examination. Consequently, the Board has thought wise to hold but one examination annually instead of two, as has been the custom for many years. This examination will be held in the latter part of June of each year in order to best accommodate recent graduates. Also, in order to expedite the issuing of certificates, a simpler and more easily handled form has been adopted. In all such cases, it is highly important to determine, not alone the factor of professional training, but also the integrity, ethical status and moral calibre of each individual applicant. Furthermore, the application of disciplinary

measures, even to the extent of revocation of license, constitutes another important function of the Board. During the past several years the Board has given particular attention to violators of the narcotic laws and to drug addicts within the profession, seeking in this way to protect the people against unsafe or immoral practitioners. The Board now has within its files accurate information bearing on all such cases, and is endeavoring to earnestly discharge its disciplinary responsibilities as they pertain to this group.

In the matter of dealing with the illegal practitioner of the healing art, to whom has never been issued a certificate of qualification, the customary procedure now is for the local county medical society, acting through its county board of censors, to institute the necessary legal procedures against a violator. The Board is cognizant of the fact that, scattered throughout the State, there are many such illegals plying their trade in open violation of the law and that there are many obstacles to be overcome and much labor to be expended in coping with this legal responsibility of the profession.

Nothing now in the law prohibits any one desirous of treating human ailments from appearing before the duly constituted licensing board, and if he possesses a minimum knowledge necessary, he will be granted a certificate limiting his activities to the particular school desired. Experience has shown that earnest cooperative effort on the part of the profession and those entrusted with the enforcement of the laws, will usually bring the results desired. The Board, therefore, desires to point out to county medical societies their responsibilities in this regard and to urge upon them the need for giving protection to their communities from the menace of illegal practitioners.

In this connection, there will likely be introduced into the Legislature some sort of bill seeking to give legal recognition to a group styling themselves chiropractors. In the January issue of the Journal, under the title "Why Partition the Human Body," the State Health Officer set forth reasons why such legislation was not only superfluous and misleading but also definitely damaging to the existing high standards for medical licensure in the State. Upon your return home, the Board urges that you impress upon your Representatives the need for upholding these high standards and that the sentiment of this Association is definitely opposed to legislation of any sort which will tend to jeopardize the health and safety of our people.

*It was moved that the subjoined report on examinations given be accepted without being read. The motion prevailed.*

#### EXAMINATIONS HELD JULY 1934 AND JANUARY 1935

Total number examined.....	21
Total number of certificates granted.....	21
Total number of pro forma certificates granted.....	36
(a) By reciprocity with other states.....	35
(b) From National Board of Medical Examiners .....	1



EXAMINATION HELD JULY 10 TO JULY 13, 1934

Number of applicants examined.....	11
Number granted certificates.....	11

EXAMINATION HELD JANUARY 8 TO JANUARY 10, 1935

Number of applicants examined.....	10
Number granted certificates.....	10

APPLICANTS GRANTED CERTIFICATES IN JULY 1934

Durick, Stephen	Hodges, Emmett Julian
Anthony	Hunt, Marston Turner
Fisher, Charles Jack	Isbell, Euclid Arnold
Floyd, Thomas John-	Scarborough, James
cey, Jr.	Elliott
Goldsmith, Edward	Warrick, George Wilks
Fuller, Jr.	Young, Paul Emerson
Hargis, Albert Sydney	(Osteopath)

APPLICANTS GRANTED CERTIFICATES IN  
JANUARY 1935

Griffin, Irvin Hilary	Robertson, John Banks
Harrison, William	Shelton, James Brown
Groce, Jr.	Snow, James Searcy
McCullough, George	Warrick, William
Cates	Donald
McDowell, James	Weatherford, William
Fredrick	Julian
Nethery, Sidney Johnson	

RECIPROCITY APPLICANTS RECEIVED APRIL 1934-  
APRIL 1935

Alexander, William Wallace—Tenn.....	June 22, '34
Aldredge, Rufus Henry—La.....	Nov. 12, '34
Barker, Hampton Ephraim—Ga.....	Sept. 7, '34
Britton, William Ross—Ga.....	Oct. 1, '34
Croley, James John—Tenn.....	Jan. 10, '35
Donovan, Henry Trawick—La.....	Mar. 18, '35
Devlin, Daniel Joseph, Jr.—La.....	Nov. 12, '34
Hanby, John Estes—Dist. of Co.....	June 27, '34
Hendrix, Richard Walker—La.....	July 23, '34
Hepburn, Charles Keith—Ind.....	Oct. 8, '34
Latio'a's, Sydney Graves—Tenn.....	April 9, '35
Lisenby, Amsie Horton—La.....	June 28, '34
Lucas, Robert Lebern—Tenn.....	July 23, '34
Mazyck, Arthur, Jr.—Va.....	May 15, '34
Miller, Bradford Walter—Okla.....	Nov. 28, '34
Minsch, Walter Allan—La.....	Nov. 26, '34
Mongle, Bruce William—Va.....	Sept. 8, '34
Moore, Ernest Griffin—La.....	Feb. 25, '35
Morgan, William Gardner—N. C.....	May 7, '34
Olson, Elmer Harold—Kan.....	Dec. 31, '34
O'Neal, Lester Cecil—La.....	July 6, '34
Power, Castro James—Mich.....	Jan. 5, '35
Provine, Henry Sproles—Miss.....	June 27, '34
Rodriguez, Jose Maria—La.....	Nov. 2, '34
Sargent, Wallace Bruce—National Board of Medical Examiners.....	Jan. 31, '35
Shelamer, Arthur McKee—S. C.....	March 25, '35
Smith, James Gibson, Jr.—Ill.....	March 25, '35
Smith, Walton Harold Young—Iowa.....	Nov. 12, '34
Stewart, William Petry—La.....	Feb. 4, '35
Tatum, Joseph Charles—Tenn.....	July 2, '34
Teasley, Gerald Haynes—Ga.....	Oct. 22, '34
Thorne, Edward Alston—Miss.....	Sept. 18, '34
Thuss, Charles John—Tenn.....	Aug. 22, '34
Trammell, Edward Lee—Tenn.....	July 26, '34
Walker, Henry Moody—Tenn.....	April 26, '34
Whitehead, Frank Fay—Ark.....	June 9, '34

PART III

REPORT OF THE BOARD OF CENSORS AS A STATE  
COMMITTEE OF PUBLIC HEALTH

Submitted by J. N. Baker, M. D.  
State Health Officer

FOREWORD

As the executive officer of the State Board of Censors and of this Association I have the honor to submit herewith the annual report of the State Health Officer covering the various activities of the Health Department during the past year.

As is known to you, the activities engaged in by any modern, well organized health department, are manifold, requiring, for efficient functioning, a certain number of bureaus or subdivisions manned by suitably trained professional and technical personnel. For purposes of simplicity and clarity there is presented below a brief sketch of the more important activities of this department conducted through its several bureaus and divisions. It may be here stated that the State Health Officer, thinking in terms both of economy and efficiency, has sought to reduce and to hold to a minimum bureau subdivision, feeling that, in so doing, closer co-ordination and sounder integration would result. Every effort has been made—and as new needs and expansion follow—will continue to be made, to group, co-ordinately, activities of a kindred nature, looking to simplicity in administrative procedures. As a prelude to what follows, a cursory glance at the department as a unit and as one of the important activities of State, will aid in a better understanding of the report.

Up until two years ago, when the financial crash struck, Alabama's Health Department, under your guidance and through your loyal support, had been rapidly, yet soundly expanded to the point where nearly ninety per cent of the State's population was enjoying the benefits of this approved type of health service. The appropriations which had been provided by the Legislature, had they continued, were sufficient to continue the expansion until the entire State would have been thus protected. The recommendations, which this Association two years ago in Montgomery, was forced to make in the matter of drastically curtailing all health activities other than those absolutely essential, are fresh in the minds of all. It will be recalled that the liberal appropriation of \$686,000 for all health purposes, previously made by the Legislature, had been reduced 41.7 per cent to \$400,000. But, during the fiscal year 1933-1934 and because of the State's shrinking revenues, only \$287,362.40 or 72 per cent of the reduced appropriation actually was made available, of which amount more than 45 per cent was given to the counties as a subsidy for health work. With the beginning of the present fiscal year, 1934-1935, the amount made available to the health department through the Comptroller's office has shown a substantial increase. With this increase every effort is being put forth to expand and improve both the field work and the activities of the central organization. The number of health units has been raised from 46 to 53 and with fair

hope of organisation in several others. Through the aid of a temporary grant from the United States Public Health Service, the field activities are being further strengthened through additional nursing and sanitation personnel. Diphtheria antitoxin for the necessitous case is being made available as was formerly the practice, and provision made for the payment of a modest fee of \$5.00 to the physician for administering rabies treatments to the indigent. The free venereal clinics, in cooperation with the local medical profession, are being re-established at certain points, as far as our limited funds will permit. The state-wide tuberculosis program with the consultative chest clinic service to physicians, again is satisfactorily functioning on a reduced scale.

All effort has been made to utilise, at every point and to the best possible advantage, the various types of personnel made available through Federal and State relief projects. Through this means, many miles of ditching have been dug, looking to a better control of malaria; much needed sanitation at many rural and urban points has been promoted or constructed; intensive campaigns of rodent extermination and dengue fever control have been conducted; and health and sanitary surveys, more particularly in unorganised counties, have been made.

In the Tennessee River basin, which comprises the ten most northerly counties of the State, several health projects of broad scope and involving the entire population within the valley are being jointly worked out by the Health Department and the Medical Section of the Tennessee Valley Authority. The lively interest and the splendid cooperation displayed, as well as the financial support being extended to the development of these projects by the Tennessee Valley Authority is both a stimulus and gratification to the State Health Officer; for out of such long-range planning and sustained programs must come lasting good for all.

During the past year, extraordinary effort has been put forth to inform and educate the general public not only as to the need and value of organized health services for all, and more especially for the vast rural stretches of our State, but also as to how such services are dispensed and how our local and state health departments operate. Where health work is conducted on a voluntary basis, as it is in Alabama, organisational activities must be preceded by educational effort in order that communities may be made public-health conscious. They must be made to appreciate the fact that community protection under our present social order transcends the interests of the individual and that, in order to accomplish this end, there must be organized official machinery for the purpose. The health department, in its educational efforts, has striven to make use of all available and ethical channels for reaching the public; chief amongst these being the newspapers, the radio, the cinema, health talks and lectures to interested groups, the liberal distribution of pamphlets and regular contributions to newspapers by the State Health Officer of brief articles dealing with health topics of general interest to the public. In this connection the health department desires to express its ap-

preciation, indebtedness and thanks to the newspapers and staff reporters throughout the State for their unflinching interest and support, without which no educational health program can succeed.

#### COUNTY ORGANISATION

In the Association year 1934-1935 this far-flung arm of the State Department of Health presented two fairly widely divergent extremes: (1) The number of counties organized for full-time health service descended to forty-six (46), a point lower than 1928 when forty-eight counties were provided with departments; (2) the number reascended to fifty-three, one less than the highest point attained in 1931. The growth was not represented solely by the reorganisation of all eight that had passed out of the picture—Choctaw, Clarke, Coffee and Geneva have not yet reinstituted the service—but by the reappearance of Baldwin, Lamar and Winston plus Autauga, Chilton, Randolph and Russell. It is believed confidently that the next few months will witness the organisation of several of the remaining fifteen counties.

Two notable contributions were made during the year to the program of the several departments. Through the Federal Government and the Alabama Relief Administration, representatives of the so-called white collar groups have been made, allotted in the person of nurses and less skilled people. The last named have rendered invaluable assistance in the State's sanitation program, notably as it embraces malaria control and privy construction.

Further, the United States Public Health Service and the Tennessee Valley Authority have made it possible for many of the counties to enjoy supplementary personnel in the form of nurses and sanitation officers. While this latter contribution is scheduled to expire June 30th, there is every reason to believe there will be a continuation of it.

Your State Health Officer has had occasion to express to you his interest in trained personnel for county health departments. His ideals are within nearer approach now that through the United States Public Health Service training can be afforded prospective and employed health officers at Vanderbilt University. There are now at the University three of the older men of the field staff and a young physician, who is being prepared for placement. Plans contemplate the assignment of still others as occasion presents.

The value of the program embraced by Alabama's local health service has been further enhanced in two particulars, namely, by the inauguration of the Blue Ribbon Program and through the Rural Health Conservation Contest.

The Blue Ribbon Program was sponsored by twelve county health officers during 1934 as a means of arousing in the school children a normal understanding interest in their health. A child is considered eligible for a Blue Ribbon if he (a) is making satisfactory progress in his studies; (b) is amenable to the ordinary requirements of school discipline; (c) has been reasonably cooperative in the practice of health habits; and (d) is free of remediable physical defects and (e) has received immunising vaccine to smallpox and typhoid fever and diphtheria toxoid or is negative to the Schick



test. A child is considered eligible to receive a "Health Club" button when he has complied with all of these requirements except having remediable physical defects corrected.

Six of the eight Chambers of Commerce that are affiliated with the United States Chamber of Commerce entered their respective counties in the Rural Health Conservation Contest. This contest is sponsored jointly by the American Public Health Association and the United States Chamber of Commerce.

The chief purpose of the contest is to create and stimulate the interest of the members of the local Chambers of Commerce in the activities that are being carried on through all health agencies within the county, and to direct their attention to the adequacy of services and appropriations connected with such health agencies.

It is believed that the participation of these civic bodies in such a contest will encourage them to promote increased appropriations for health work where they are apparently needed.

#### DIVISION OF PUBLIC HEALTH NURSING

A review of the activities of this Division and of its accomplishments during 1934 shows a slow but steady growth. This has been possible because of the ability not only to retain the staff of 1933 but also to add somewhat to it.

**Division Staff:** On March 1, 1934 the salary and supervision of a colored nurse was assumed. This nurse was assigned to the Movable School of Tuskegee Institute. Both a verbal and written report are made this Division each month and such direction given as is indicated.

On August 1, the wholly inadequate advisory staff was increased by bringing one of the county nurses to the central office.

From time to time during the year additional personnel has been made available through the Civil Works Administration and the Alabama Emergency Relief Administration. Office secretarial help was had from this source from January 1, to March 30. Three part time clerical assistants were added in June, October and November to work on the midwife control program.

In February 1934 with the assistance of the Civil Works Administration a health survey was begun in the unorganized counties. The purpose of the survey was twofold: first, to discover certain facts and conditions existing in the various counties and to assemble this information so that it would be of immediate use as a check against reported births and deaths, and as a source of information for the promotion of further health work. Second, to provide employment for graduate registered nurses. The survey was directed from this Division by a nurse with some executive experience. Four clerical assistants were given her through the Civil Works Administration. The county surveys were also directed by graduate nurses wherever possible. It is to be regretted that these surveys were not completed in the various counties because of the discontinuance of the project, for the reason that much information of value was being accumulated.

On September 28th a second nursing project was submitted to the Alabama Relief Administration. This project provided for the addition of nursing personnel to the units in organized counties. The need for this additional service as stated in the project was—"To strengthen the nursing service now rendered in the counties enumerated in order to meet the increased demand in the public schools and to augment more particularly the maternity and infancy program in rural areas. It is understood that this service will be in addition to any other service which has been offered. The nurse or nurses selected shall be acceptable to the local and State health offices and shall work directly under the supervision of the health departments."

This project was approved and all counties availed themselves of this help, thus adding from two to ten part time nurses to their staffs.

From October 20th to December 15th, the State, cooperating with the Tennessee Valley Authority, provided nursing personnel necessary for making a malaria survey in six counties of the Tennessee Valley. The activity consisted of the taking of histories and the making of the thick smear for diagnosis.

Because of the addition of nursing and other personnel to certain county units, made possible through the cooperation of the United States Public Health Service, the training station at Opelika was opened on November 1st and continued until December 31st. During this period health officers, nurses and sanitary officers were given intensive training in the field of public health. Teaching and supervision in nursing activities were directed by members of the staff of this Division. Two groups, one of six white and four colored nurses and the other of ten white nurses were given these courses of instruction. These nurses have all been given permanent appointments.

A major function of the Division continues to be an advisory service to the counties having organized health units. While this service has been given primarily to the nurses it has been extended during the past year to include the office secretaries as well. During an advisory visit of from one to three days, field visits are made and office activities discussed. Major objectives are, (a) a more effective home visit, (b) a concise and intelligent record of a visit, (c) a worth while prenatal and infant welfare program, (d) a planned program reaching all parts of the county, (e) an organized program of tuberculosis control, (f) adequate and intelligent office records and simple but adequate filing system.

During the year a total of two hundred and nineteen advisory visits have been made to fifty-eight counties.

**The Midwife Control Program:** The midwife survey, begun in 1933, has been continued during 1934. One hundred and thirty-five visits have been made to fifty-five counties, the survey being made in fifty-two counties.

The results of these visits have been: the survey of midwives, tabulation of facts found, and the recommendation of a program to meet the need in the several counties.

The survey brought out facts relative to the prevalence of the practice of medicine by the midwives in the following fields: gynecology, obstetrics, pediatrics, venereal disease, and general medicine.

The midwife control program broadly embraces the following:—(a) studying the place of the midwife in the maternity service of the State; (b) finding the need for her service; (c) determining the persons to meet this need and; (d) teaching them safe procedures to be used in the service.

NUMBER OF MIDWIVES REGISTERED IN ALABAMA  
ACCORDING TO COLOR, 1934

Registered	—Total—		—White—		—Colored—	
	No. of Midwives	%	No. of Midwives	%	No. of Midwives	%
Total	2215	100.0	398	100.0	1817	100.0
Yes	1600	72.2	173	43.5	1427	78.5
No	615	27.8	225	56.5	390	21.5

Registered unknown for 74 white and 184 colored midwives.

Staff Education—State and County: Staff education both State and county has been promoted by the stimulation of interest in general and professional reading, by membership in professional organizations, by taking summer courses and attending National and State meetings.

In June 1934 the University of Alabama, co-operating with the Educational Section of the State Nurses Association, offered three courses of interest to nurses. Six public health nurses availed themselves of this opportunity bringing back to their counties renewed interest in their work resulting in increased ability.

February 26-28 a joint public health nursing conference and Red Cross institute were held. For convenience the group was divided, those from south Alabama coming to Montgomery and those in north Alabama going to Birmingham. The attendance of public health nurses was 100%.

One member of the staff of the Division of Nursing and three members of county staffs attended the Biennial in Washington.

State and counties were also represented and participated in the programs of the annual State Nursing Association.

A series of eight talks on public health nursing was given the student nurses of St. Margarets, Hubbard, and Fraternal hospitals in Montgomery. Similar talks were given by members of the nursing staffs of Jefferson, Walker and Covington counties.

At the request of the International Health Board visitors from other countries and states have been received and shown something of Alabama's health program. During the year the Division has had a total of nineteen visitors from other countries and states.

County Public Health Nursing Activities: The nursing program is planned primarily to render a service to the mothers and the children of the State. It is an educational program in which the fundamentals of healthful living are taught. In order that this teaching may reach greater numbers, groups are organized whenever possible. Only by group teaching can the inadequacy of one

nurse to a county be even partially overcome.

The total number of public health nurses employed in the forty-seven organized counties January 1, 1934 was eighty; December 31, 1934 in forty-nine counties, ninety-one nurses.

#### BUREAU OF LABORATORIES

Diagnostic Division: During the calendar year of 1934 the Bureau of Laboratories examined 244,699 specimens, being an increase of 48,407 over the year 1933. In comparing the different types of specimens received during the two years, it was found that diphtheria fell off approximately 500, in 1934; typhoid increased slightly due to the epidemics in Phenix City and Decatur; and malaria more than doubled because of the large surveys made in fourteen counties in collaboration with the U. S. Public Health Service. Nearly 5,000 more examinations were made for intestinal parasites during 1934 than in 1933. Outside of the malaria examinations the most outstanding increase was in the number of specimens submitted for the serological tests for syphilis. Here 18,310 more samples of blood were received in 1934 than in 1933. It is especially interesting that spinal fluids showed little change during these two years. Smears for gonorrhea increased by 1,529 in 1934, while tuberculosis remained stationary. 722 more animal heads were received in 1934 than 1933, while waters decreased by 1,526, as did milks by 2,007. The records of the laboratory show that an increasing interest is being taken in the relatively new clinical entities of tularemia, undulant fever and endemic typhus, because 1,199 more specimens for the agglutination tests for these diseases were submitted during 1934 than in 1933.

That 293 examinations for the diagnosis of amebic dysentery were made in 1934 as against 4 in 1933 demonstrates that the Chicago epidemic caused attention to be directed towards this disease. Besides the above specimens a survey was conducted at The Bryce Hospital, at Tuscaloosa, in which 540 stool examinations were made from 480 patients.

Vaccine Division: The following biological products were made and distributed during the calendar year of 1934:

Typhoid Vaccine—811,970 cc. or 324,399 complete immunisations.

Rabies Vaccine—5,514 complete treatments.

Alum precipitated diphtheria toxoid—106,264 cc.

Schick Toxin—4,617 cc.

Tuberculin—230 cc.

Sterile distilled water—30,800 cc.

Silver nitrate—50,469 ampules.

If these products had been purchased at contract prices the cost would have been approximately \$116,000.00. Inasmuch as the Vaccine Division was in a constant state of flux during most of 1934, due to shifting personnel and construction work, it was impossible to properly keep cost records. It is hoped that in the future production costs may be determined with accuracy.

By means of labor obtained through the C. W. A. and of monies from the Governor's contingent



fund, the much needed wing for the Vaccine Division has been obtained. This consists of a two story building, the lower floor of which contains one large utility laboratory, and three storage rooms. The second floor has, besides three laboratories, an ampuling, a filtering, a packing room and a kitchen. This has been especially designed for vaccine work and a greater part of the second floor is furnished with filtered air to prevent contamination. Through the kindness of the Rockefeller Foundation, it has been possible to install an efficient air filtration apparatus.

Although none of the products manufactured by the Vaccine Division are sold or distributed outside the State of Alabama, it has been considered advisable to obtain, if possible, a Federal License for the production of vaccines. In this way an additional factor of safety would be added because samples from each lot of biological products would be submitted to the National Institute of Health for test, and no lot would be released without its sanction. The new addition was designed with this in mind and at present methods and records are being changed to conform to the regulations of the U. S. Public Health Service.

**Research and Investigation:** The Bureau of Laboratories has initiated several new research projects during 1934 and has cooperated with the other Bureaus in investigational work.

(a) Diphtheria—Efforts are being made to refine the alum precipitated toxoid, that the danger of reactions may be minimised. Newer methods for quantitative measurement of diphtheria immunity are also being developed. A different medium for the rapid isolation of the diphtheria bacillus for virulence tests is being investigated.

(b) Typhoid—A possible method for the measurement of typhoid immunity is being tried out and the preliminary results are encouraging. The isolation of the typhoid bacillus from stools and urine is still in an unsatisfactory stage and attempts are being made to refine or change present methods. It is especially important that the procedure used should be suitable for detecting dysentery bacilli, if present.

(c) Hookworm—In collaboration with the Bureau of Preventable Diseases comprehensive hookworm surveys are being conducted in several counties and ova counts are being run on representative positive specimens. In this manner accurate records concerning the worm burden should be obtained for these localities. Inasmuch as an attempt is being made to compare the relative efficiency of two different kinds of hookworm treatments—a combination of oil of chenopodium with carbon tetrachloride and tetrachlorethylene—, rechecks are being run on all treated cases with a representative number of ova counts.

(d) Malaria—In collaboration with the Bureau of Preventable Diseases restricted areas in which malaria was especially rampant during 1934 have been selected for intensive study. It is hoped to make four complete surveys in these districts during 1935 in order to observe the change in the ratio of tertian to estivo-autumnal malaria, and the different stages of the parasites in the blood at vari-

ous seasons of the year. Treatment with atabrine supplemented by plasmochin where necessary, according to the recommendations of the League of Nations, will be instituted.

(e) Typhus—The typhus fever project which has been carried on in collaboration with the Rockefeller Foundation and the U. S. Public Health Service has gained momentum during the year 1934. The original object of the work was to conduct an epidemiological study of this disease by means of ectoparasite surveys and susceptibility tests on the fauna of the typhus fever belt, for the purpose of determining the animal reservoir and all possible vectors of spread.

A thorough study of the ectoparasites found on wild game has been made. All types of animals indigenous to the typhus fever belt have been tested for their susceptibility to the disease. These latter experiments have not been completed at the present time, and the number of animals tested of each type has necessarily been smaller than one would desire. Nevertheless, positive results have been obtained in the experiments on opossums, wild rats and field mice, wild rabbits, gophers, grey squirrels and flying squirrels. These have shown definite susceptibility to typhus, and no doubt others will be added to the list as the work progresses.

**The Rabies Situation:** The year 1934 showed a marked increase in rabies throughout Alabama. Previously the disease has been confined mostly to the northern counties of the state, with only a few scattered infected animals in the southern portion. However, in 1934, 722 more heads were received from all sections than in 1933 and 1,996 more treatments were distributed. The fact that only 3 deaths—but one of which received treatment—were recorded during 1934 demonstrates the efficacy of the vaccine. Nevertheless, the questionnaires show that many persons were treated unnecessarily, and more caution should be exercised in advising treatment.

Two cases of postvaccinal paralysis occurred during 1934. Neither was fatal but in one the paralysis is permanent.

The State Department of Health has urged various municipalities to enact ordinances requiring compulsory vaccination and licensure of all dogs. In a number of towns such ordinances have been passed and are being enforced. Birmingham, where vaccination and licensure became compulsory January 1st, 1935, is the best example. For January and February of this year in Birmingham, animal heads positive for rabies have decreased 70% and the number of anti-rabic treatments 70% when compared with January and February, 1934. This decrease has taken place in the face of an increasing number of rabid animals and treatments distributed in other sections of the State.

A bill pending before the present Legislature provides for the vaccination and licensure of all dogs in the State of Alabama. It is believed if the bill becomes a law that a marked decrease in rabies will occur.

**Malaria Survey:** In cooperation with the U. S. Public Health Service a blood survey was made on

school children in fourteen counties. The original idea was to take not less than 700, or more than 1,000 slides per county. This survey was made during March and April, 1934.

The results were as follows:

County	Total No. Slides	Positive Tertian	Positive Estivo Autumnal	Positive Mixed	Percentage Positive
Marengo	1065	12	6	0	1.6
Crenshaw	1324	11	0	0	0.8
Macon	890	16	8	0	2.7
Wilcox	1050	16	5	0	2.0
Colbert	1407	21	7	0	2.0
Madison	826	10	1	0	1.3
Dallas	783	25	1	0	3.3
Washington	856	6	1	0	0.7
Sumter	721	16	11	0	3.7
Lawrence	721	34	12	2	6.9
Houston	840	11	7	0	2.1
Dale	1016	13	3	0	1.5
Geneva	971	16	2	0	1.9
Pickens	823	5	2	0	0.9
Total	13,293	211	66	2	2.1

It will be noticed that percentage infection in all cases was relatively low. The fact that these slides were taken in the early spring accounts for this, and also for the predominance of tertian malaria. The northern counties had higher percentages than the southern.

**The Serological Tests for Syphilis:** Although no special campaign was instituted during 1934, 18,310 more samples of blood were submitted for the serological tests for syphilis than in 1933. A part of this increase was due to the routine testing of all T. V. A. employees; these examinations being made at the Decatur Branch Laboratory. However, at least fifty per cent of this increase occurred outside the T. V. A. area. It is expected with the addition of the new county health units, that this number will be even greater in 1935.

With the additional personnel made available by the C. W. A. during January, 1934, the Wassermann test was reinstituted. Since that time both the Wassermann and Kahn tests—an ideal combination—have been used. However, when the C. W. A. ceased, a severe strain was placed on the four branch laboratories in which only one bacteriologist was employed. This was somewhat relieved by the addition of two technicians, one of whom works alternate months in Tuscaloosa and Anniston, the other, alternate months in Selma and Dothan. However, this arrangement will not prove satisfactory with the larger volume of work which is, and will be forthcoming, from the new county units.

At present only one serologist is employed by the Central Laboratory. The routine blood samples have increased markedly here, and in addition, this person is responsible for the preparation and standardisation of all reagents (Wassermann and Kahn) used in the whole laboratory system. If more emphasis is to be placed on venereal clinics, additional laboratory personnel will be essential for this phase of the work.

#### BUREAU OF SANITATION

The activities of this Bureau fall broadly into two divisions: (a) Division of Engineering; (b) Division of Inspection. The principal activities of the former come under the headings of public and semi-public water supplies, pit privies and septic

tanks, sewers, sewage treatment and disposal, malaria and mosquito control, and dengue fever control. Those of the latter deal largely with food handling establishments, hotel, restaurant and jail inspections, milk control, bottling plants and oyster control.

**Water Supplies:** The purpose of supervision as set up by the Division is to secure for the users of such supplies safe, satisfactory and palatable water for domestic consumption.

During the year 212 visits were made to 181 municipal plants. With 39 supplies in Jefferson County, which were checked by the health organization of that county, all public supplies were visited. Exception to this statement should be made in the matter of two State prisons and one supply serving a small industry.

A second feature of the supervision of water-works is the study of plans and specifications for approval and issuance of permits for new plants, additions, modifications or other changes proposed by existing plants. During the year fifty such permits were issued.

The Federal project of "Sealing Abandoned Coal Mines for the Protection of Public Water Supplies" under the supervision of this division was ended on March 1st. A total of 2,927 mine openings were closed. It is estimated that this is about 35% of the drift mines in Alabama. This project was in operation for three months. Its purpose was to exclude from streams the sulphuric acid formed by the oxidation and hydra-lyzation of the pyrites ( $\text{FeS}_2$ ) contained principally in coal seams.

**Sanitation:** The volume of pit privy and septic tank work done during 1934 was approximately 100 per cent greater than that done during 1933. Materials furnished by the Civil Works Administration for use on public property and labor for both public and private property construction were the chief contributing factors.

This work was supervised during the C. W. A. works program by county sanitation officers and by county supervisors made available through the co-operation of the U. S. Public Health Service and the Civil Works Administration, and was conducted in sixty of the sixty-seven counties. After the close of the C. W. A. program the Alabama Relief Administration continued the work on a reduced scale. Adequate supervision was not available for all counties.

The total work done in cooperation with the two agencies was 3,458 private privies and septic tanks, 446 sewer connections and 431 schools sanitized. This was to serve 44,660 persons. Discounting the actual construction during the year, it is believed that the educational value made possible by the relief agencies furnishing labor for construction has been beneficial to the people with reference to sanitation and good health.

**Sewage:** More active supervision of sewage disposal in Alabama was begun under State law in 1933, when an act designated as No. 103-H 385 Kelly-Talladega" became a law at a special session of the Legislature in 1933.



The act requires that a permit be obtained from the State Board of Health before any debt is incurred for purchase, construction or improvement, enlargement, extension or repair of any sewer system or sewage treatment plant. During the year plans and specifications were received, checked, approved and permits issued for a total of 43 sewer extension construction or repair jobs. This represents public expenditure of more than one million dollars.

**Malaria Control:** Through joint programs with the U. S. Public Health Service in connection with public agencies set up as a result of the National Recovery Act, the Division accomplished an exceptional amount of work in malaria control. Aside from the material benefits of draining many anophelis breeding places and maintaining such construction, it is evident that the educational value, because of employing people from many different social strata, has been far-reaching.

Drainage work using C. W. A. labor was inaugurated in November of 1933, but for convenience all the work is included in the 1934 report and none in the 1933 report. A total of 260 drainage projects was completed and 122 left incomplete at the close of the program conducted in 65 counties. The total estimated area drained was 28,863 acres, requiring 342 miles of ditching and 1,564,277 man-hours. This represents a benefit to a population estimated at 336,521.

At the close of activities of the Civil Works Administration, public work relief was resumed in a similar set-up, but on a smaller scale by the Alabama Relief Administration. Under this set-up during the remainder of the year, there were 88 drainage projects completed and 67 projects were under construction at the close of the year. All this was done in 53 counties. There were 81 miles of new ditch constructed, draining 3,265 acres and 121 miles of old ditching were reconditioned. This embraced a population of 85,325, and required 681,910 man-hours. In addition to drainage, a total of 137 houses was mosquito proofed with A. R. A. labor.

The usual activities in connection with control on impounded waters were conducted slightly short of satisfaction due to lack of personnel during the latter part of the year and augmented with extensive investigational work around Martin Lake on the Tallapoosa River, Lake Wilson and in the General Joe Wheeler reservoir area, on the Tennessee River. This phase of the work is and will be definitely on the increase due to activities of the Tennessee Valley Authority. Activities along the Tennessee River by the T. V. A. are offering a control problem of considerable magnitude as well as unusual opportunities for research.

**Dengue Fever Control:** During the latter part of July 1934, it was learned that dengue fever had reached epidemic stage in a nearby State. Immediately a far-flung control program was inaugurated in forty-nine counties, utilizing labor and other personnel for supervision furnished by the relief organization. The program was conducted in 156 towns and continued until a killing frost made intensive activities unnecessary.

During this campaign 661,747 premise inspections were made. No serious outbreaks were reported in the interior of the State. The disease momentarily reached epidemic stage along the Georgia and Florida borders in the towns of Lanett, Eufaula and Dothan, but these outbreaks were soon controlled by intensified efforts.

**Miscellaneous: Training School.** During November and December the cooperation of the U. S. Public Health Service made possible the addition of seventeen sanitation officers and two district supervisors to county health units to further promote the work of sanitation. These men were trained in two groups at the Opelika training base, and all were placed in counties before the close of the year.

**Inspection Activities:** During the calendar year 1934, 10,798 inspections of food-handling places, barber shops, hotels, oyster shuckeries, dairies and milk-plants, etc., were made by the staff of the Division of Inspection, and 6,031 inspections were made by the six deputised county inspectors. This number compares very favorably with 3,523 and 6,037 made by these same agencies in 1933. The inspection staff now consists of four district inspectors and the director.

During this past year the Milk Regulations of the State Board of Health have been amended to make them conform to modifications which the U. S. Public Health Service has from time to time recommended, and an organized effort is now being made to present them to county boards of health and municipal authorities for adoption. Although Alabama has been fortunate in having no recognised epidemics of milk-borne diseases during the past decade, we can not feel assured that our milk supplies are as safe as they should be until these amended regulations are in effect throughout the State.

It was not deemed feasible to use Civil Works Administration personnel on inspection activities, but the opportunity was taken to use C. W. A. personnel to mimeograph a compilation of the public health statutes, related statutes, and opinions of the Attorney-General, which has previously been prepared by the Director of the Division of Inspection. This activity occupied the office force of the Division from January to April.

As was reported last year, some concern was felt about the safety of the waters of Bon Secour River as a growing and penning area for oysters. In August an organized program for the sanitation of the water-shed of this stream was undertaken, with relief administration labor. Practically all habitations bordering on the stream have now been provided with standard pit privies, about 60 having been completed, sources of pollution have been removed, and a recent laboratory survey of the waters of the river in the growing areas indicates that these waters showed no pollution at that time.

#### BUREAU OF PREVENTABLE DISEASES

The Bureau of Preventable Diseases has supervised the activities in connection with the acute

communicable diseases and also the tuberculosis control and venereal control programs.

The rat eradication program carried on under C. W. A. auspices in the early months of 1934 evidently had the desired effect on the incidence of typhus fever as there was a very marked decrease in the incidence of this disease for the balance of the year. This disease began to increase in 1932 when there was a jump of 300% over the 1931 figures. 1933 in turn showed a 300% increase over 1932, and the first three months of 1934 showed a 300% increase over the same three months of 1933. From this time on the picture changed and the final reports for 1934 showed a total of 271 cases for the year as compared to 823 for the year 1933. Recently another smaller rat control program has been inaugurated in the counties most concerned, and it is hoped that the disease may be kept under control.

Typhoid fever occurred in epidemic form in two cities during the year. These were Phenix City and Decatur, and in both, the outbreak was due to infected water supplies. The depression might fairly be blamed for these as the economic status of the people concerned did not permit them to maintain adequate, supervised public water supplies, but had driven them to use unprotected wells and springs with the resultant tragedy. In all, ninety cases out of the State total of 678 cases occurred in these two epidemics.

A county wide hookworm survey was carried out during the past winter in several unorganised counties, using nurses furnished by the Relief Administration. By alternating the drugs used in treatment the efficacy of various anthelmintics was determined.

The tuberculosis clinics, sponsored by the department, continued their diagnostic work, but in August a new plan of operation was adopted. Under the present arrangement, the x-ray and history-taking division visits the county for two days, at which time all referred cases are x-rayed. The clinician then reads all the films and returns to the county two weeks later to examine those showing any evidence of disease. This enables him to discuss any individual case with the referring physician. By this change in procedure, the same personnel can service twice the number of patients previously seen. During the year, 1934, there were fifty-nine clinics held, at which 2,567 patients were examined. Of this number, 523, or 20.4% were diagnosed as tuberculosis and an additional ninety-four were classed as suspect pending further developments.

The two county sanatoria constructed under Civil Works Administration auspices in Morgan and Jackson Counties were completed and arrangements for opening them are being made. The re-instatement of the State subsidy to aid in the maintenance of patients in county institutions would be a big step towards adequate hospitalisation and it is hoped some action will be taken by the current Legislature. At the present time there are only about 300 beds for the treatment of tuberculosis cases and there were 1,734 deaths attributed to this cause during 1934. A standard recommendation is one bed for each annual death,

so Alabama badly needs additional hospitals. The use of the Burr-type portable cottage has offered a means of home isolation that is particularly applicable to the open far-advanced case that would benefit least from hospital cure. With the assistance of the Relief agencies a large number of these have been built and placed in operation throughout the State. They enable the case to be isolated from other members of the family, while still permitting him to be at home and in touch with family affairs.

The venereal disease program was begun again in a limited way in October. Drugs for the treatment of indigent cases of syphilis were made available to the physicians of the State, with particular emphasis on the treatment of the early infectious case of the disease. It would be ideal if drugs could be supplied for all cases of syphilis, but lack of finances makes it imperative to restrict the free supply to indigents and to the cases most likely to transmit their infection. In a program of this nature the cooperation of the medical profession is essential as its success or failure rests on the willingness of the practicing physician to give his services. In one or two centres the county medical society sponsored a clinic on a small fee basis, with the attending physicians receiving the fees. Such a scheme might be applicable elsewhere in the State.

#### BUREAU OF VITAL STATISTICS

The Bureau of Vital Statistics continues to labor under the handicap of a drastically reduced personnel. Notwithstanding the fact that there has been a partial restoration, we have thirty per cent fewer workers at the present time than we did in 1930. In 1930 the number of full-time employees averaged twenty; in 1931, nineteen; in 1932, sixteen; in 1933, eleven; in 1934, seven; and in 1935, up to the present time, an average of fourteen. For five months in 1933 there remained only eight. This resulted in making it impossible to render as prompt and complete statistical service as is necessary even to meet minimum standards of statistical health service. It has caused an undue delay in submitting the annual report of this Bureau and has prevented the making of many special studies which would be of invaluable assistance to county health officers in preparing their health programs.

Full use has been made of the assistance of the Federal Emergency Relief. The latter part of 1932 was the first time such help was used. It is difficult to give an exact figure in terms of full-time workers of the number of such personnel employed because of the fact that the number fluctuated constantly and the number of days each was permitted to work varied. It is estimated that there was an equivalent of an average of approximately twenty-five full-time workers during the first part of 1933, fourteen for the entire year of 1934 and thirty-three so far during 1935.

It is equally difficult to evaluate the amount of work done by relief workers because of the above facts. They have been a decided help and had it not been for their assistance our work would have been delayed even more than it has been.



The Bureau is conducting two projects at the present time which utilize the combined equivalent of twenty-nine full-time workers. One of these projects is being conducted in cooperation with the U. S. Census Bureau and the Federal Emergency Relief Administration. The purpose of the project is to determine the efficiency of birth registration over the entire State. In comparison with other states, of which this is the twenty-third state to carry out such a project, the results are most encouraging at the present time in the size of the sample upon which we have to work.

The second project of which mention is made is that of preparing a typed index of our births and deaths for a ten-year period. This index is the final one prepared in volume form from the card index. Both of these projects are now going on and will be of inestimable value.

Alabama passed its first state registration law in 1881. A continuous record of births and deaths has been maintained at the Bureau of Vital Statistics since 1908. In 1925, the State was admitted to the Death Registration Area and in 1927 to the Birth Registration Area. Admission to the Registration Area is indicative of the fact that at least ninety per cent of the deaths or births, as the case may be, are reported.

For purposes of registration, the State is divided into approximately 1,150 primary registration districts. A local registrar represents each district and receives certificates from physicians, undertakers, midwives, etc., which he in turn passes on to the central Bureau of Vital Statistics. In counties in which there is a county health unit the certificates are first sent to the county unit, which in turn sends them to the central bureau. This affords the county health officer the immediate use of the data contained on the certificate.

Upon reaching the State office, the certificates are carefully examined for errors, omissions and contradictory statements. Practically 61,000 birth certificates and 29,000 death certificates were received from the local registrars in 1934. About 10,000 queries were sent for additional information by the registration division in 1934. Approximately half of this number was necessary because the medical certificate was improperly or incorrectly filled in by the attendant at death. The amount of clerical work necessary to make corrections on the certificates following the return of the queries is tremendous. Most, if not all, of these queries could be eliminated were sufficient thought and care expended by those making out the original certificate.

Most of the information contained on the certificate is transcribed upon a small card known as a punch card. Before this can be done, however, the certificate must be properly corrected for errors and omissions and then edited. Editing is simply a method of identifying certain replies in such a way that they may be recorded in code on the punch card designed for that purpose. The reason for preparing punch cards is that they may be sorted mechanically at a high rate of speed and accuracy. Without the use of punch cards, present day analysis of vital statistics would be comparatively limited in scope.

The Bureau of Vital Statistics has primarily two functions to perform: First, the registration and preservation of records of births and deaths; second, the tabulation and analysis of vital statistics. It is the second function that is of primary importance to the Health Department. It provides both the State Health Officer and the county health officers with facts concerning mortality upon which their respective health programs may be based.

Special emphasis has been continued, in the analysis of our vital statistics, upon the factor of residence. In order to make proper comparisons, corrections must be made for residence.

The entire system for the registration of certificates of births and deaths is dependent upon approximately 1,150 registrars. It is greatly to be regretted, however, that lack of funds has deprived this Bureau of the use of both its field workers. It is essential that there be one or more full-time field representatives and that sufficient traveling expenses be provided for them. The field worker can care for many problems in the field which cannot be properly done by mail. Registrars need the guidance and training which he can provide. With better trained registrars, the certificates will be more accurately completed and there will be less necessity for writing such a large number of queries from the central office.

The financial condition of some of our counties has worked a great hardship on many of our local registrars. Some of them have worked in that capacity voluntarily for over two years without receiving any compensation. Such a situation, however, cannot continue indefinitely and already it is apparent that its effect has been most detrimental to efficient registration.

In 1934, there were issued from the Bureau of Vital Statistics more than 2,500 certified copies of certificates. There has been an increase in the demand from the U. S. Veterans' Bureau and from insurance companies. The number of birth registration notices sent in 1934 was 29,500. This is a considerable reduction from 49,500 of the previous year and reflects a reduced number of competent clerks available for such service. The number of copies of birth records, primarily for school purposes, increased from 7,527 in 1933 to 10,154 in 1934. Corrections to records were made on 2,517 certificates. Only 645 requests were made for transcripts of birth records for employment purposes, compared with 1,763 for last year. A summary of work done by the Record Division in 1932-1934 is as follows:

	1932	1933	1934
Certified copies issued.....	3,747	2,308	2,525
Birth records for employment purposes .....	947	1,763	645
Copies of birth records, mainly for school purposes, etc., and other miscellaneous searches .....	7,029	7,527	10,154
Birth registration notices sent to parents.....	55,719	49,500	29,500
Corrections to records.....	4,880	5,307	2,517

It is desirable that the registration of marriages and divorces be made more centralized. At the present time the certificates are filed in county court houses. In many instances the records are exposed to fire hazards and in some cases have been destroyed thereby in the past. Information concerning them is obtained with considerable difficulty if at all. The Bureau of Vital Statistics receives numerous requests for information concerning marriages and divorces and for certified copies. It is unable to furnish this service under the present system.

In the past, the registration of a stillbirth has required the filing of both a birth and a death certificate. It is proposed that we now file only one certificate which shall be a combination of the birth and death certificate. Such a step would provide the information required and with less time required of the attending physician.

The Bureau of Vital Statistics anticipates the necessity for modifying certain laws to correct the above difficulties. It proposes to amend the law in such a manner that registrars will be promptly remunerated for their services; that original certificates of marriage and divorce shall be filed in the central Bureau of Vital Statistics; that a single certificate for the registration of stillbirths shall replace the present requirements of filing a separate certificate for both a birth and a death.

The Bureau of Vital Statistics acted as host in the meeting of Southern State Registrars held on June 22 and 23, 1934. At this meeting practical problems pertaining to registration in the Southern States were discussed. It is hoped that more such meetings will be held in the future.

#### REVISION OF THE ROLLS

The next order of business being the revision of the rolls of the Association, the Secretary was directed by President Cunningham to proceed without interruption in the absence of objection. As a preface to the revision of the Roll of County Societies, the Secretary said:

"County Medical Societies, to comply with the Constitution, must meet certain obligations. First, an annual report, on forms furnished by the Association, must be filed with the Secretary; second, each society is expected to be represented at the annual meeting by at least one delegate; third, fees must be paid to the Treasurer of the Association for each delegate to which the Society is entitled; and fourth, dues are to be remitted to the Treasurer for each member."

With this foreword, the revision proceeded.

##### 1. Revision of the Roll of County Societies:

(a) County societies which have fulfilled all their constitutional obligations: Baldwin, Blount, Bullock, Butler, Calhoun, Chambers, Chilton, Choctaw, Clarke, Clay, Coffee, Colbert, Conecuh, Cullman, Dale, Dallas, DeKalb, Elmore, Escambia, Etowah, Fayette, Franklin, Geneva, Hale, Henry, Houston, Jackson, Jefferson, Lamar, Lauderdale, Lee, Limestone, Lowndes, Madison, Marengo, Marion, Marshall, Mobile, Monroe, Montgomery, Pickens, Pike, Randolph, Shelby, St. Clair, Sumter, Talladega, Tallapoosa, Tuscaloosa, Walker, Wilcox—Total 51.

No objection being made as to the correctness of this report, the President directed that these counties be passed as clear of the books.

(b) County societies partially delinquent: Autauga, Barbour, Bibb, Covington, Lawrence, Macon, Perry, Russell, Washington and Winston—delinquent in representation; Cherokee and Coosa—in delegate dues for one; Cleburne, in representation and delegate dues for two; Crenshaw, in delegate dues for two; Greene—in report, representation and delegate dues for two; Morgan, in report—Total 16.

No objection being offered as to the correctness of this report, the President directed that these counties be passed, with an understanding that the Secretary and Treasurer make an effort to remove the delinquencies.

(c) County societies totally delinquent: None.

Thereupon the Secretary said, "In revising the Roll of the College of Counsellors, five lists are prepared, designated respectively: (1) The schedule of counsellors clear on the books in regard to attendance and dues; (2) The schedule of delinquent counsellors—counsellors delinquent in attendance or dues, or against whom charges may be pending; (3) The schedule of miscellaneous counsellors—counsellors who have died since the last annual meeting, or have offered their resignation, or have moved out of the State, or out of their respective congressional districts; (4) the schedule of active counsellors of twenty years' standing; and (5) the schedule of counsellors-elect who have qualified as provided in the Constitution."

With such preface, the revision was continued.

##### 2. Revision of the Roll of Counsellors:

(a) Counsellors clear of the books: Abernethy, Acker, Alison, Anderson, Ashcraft, Bailey, Beard, Bedsole, Burdeshaw, Caldwell, Cannon, Chandler,



Chenault, Cowles, Craddock, Crutcher, Cryer, Dabney, Dowling, Dupree, Garber, Gragg, Granger, Greer, Gresham, Hagood, Hatchett, Hayes, C. P., Hayes, J. P., Hendrick, Hill, Hollis, Hough, Howell, Hubbard, Jackson, James, A. D., James, N. G., Jordan, Kirkpatrick, Leach, Lester, Lightfoot, Long, Lull, Martin, J. A., Martin, J. C., Mason, E. M., Mason, J. M., Mayer, McAdory, McCall, Miller, Moore, Moxley, Newman, Noel, Noland, Nolen, Oswald, Parker, Perdue, Price, Ralls, Redden, Rountree, Rucker, Scott, Searcy, G. H., Searcy, H. B., Shaddix, Shropshire, Sledge, Smith, Speir, Tankersley, Taylor, Thomas, Waldrop, Walker, Walls, Ward, White, Wilkerson, Williams, Williamson, Wood, Wright.

In the absence of objection, the President ordered the names of these counsellors, reported as clear of the books, passed.

(b) Delinquent Counsellors: C. R. Whitman, attendance.

(c) Miscellaneous Counsellors:

- (1) Life Counsellors who have died: E. M. Harris and O. S. Justice.
- (2) Active Counsellors who have died: M. E. Doughty.
- (3) Active Counsellors who have moved: None.
- (4) Active Counsellors who have resigned: None.
- (5) Active Counsellors of twenty years standing: J. S. Crutcher, W. B. Hendrick, A. D. James, H. S. Ward.
- (6) Counsellors-elect who have properly qualified: J. F. Alison, W. R. Carter, M. H. Eskew, G. S. Gilder, W. M. Salter, J. L. Shamblin, G. R. Smith, Stewart Welch.

The President directed that the name of Dr. C. R. Whitman be removed from the roll; that the names of Drs. E. M. Harris, O. S. Justice and M. E. Doughty be transferred to the Book of the Dead; that the names of Drs. J. S. Crutcher, W. B. Hendrick, A. D. James and H. S. Ward be added to the Roll of Life Counsellors; and that

the names of Drs. J. F. Alison, W. R. Carter, M. H. Eskew, G. S. Gilder, W. M. Salter, J. L. Shamblin, G. R. Smith and Stewart Welch be added to the Roll of Active Counsellors.

### 3. Revision of the Roll of Correspondents:

Dr. George Henry Semken, 1935 Jerome Cochran Lecturer, was added to the Roll of Correspondents.

### 4. Revision of the Roll of Officers:

Dr. C. A. Thigpen, Montgomery, was elected President; Dr. C. P. Hayes, Elba, was elected Vice-President of the Southeastern Division. Drs. E. V. Caldwell and S. A. Gordon were elected to succeed themselves as members of the Board of Censors; Dr. M. Y. Dabney was elected to fill the unexpired term of Dr. J. S. McLester, resigned; and Dr. T. Brannon Hubbard was chosen to fill the unexpired term of Dr. C. A. Thigpen, elected President.

Committees constitutionally provided to nominate counsellors brought in the following nominations: From the First District—E. B. Bailey, A. L. White, J. M. Weldon; Second—Douglas L. Cannon, N. G. James, J. B. Moxley; Third—V. J. Thacker, J. S. Tillman, F. G. Granger, S. L. Burdeshaw; Fourth—James Tankersley; Fifth—W. H. Riser, B. C. Scarbrough; Sixth—V. J. Gragg; Eighth—Rayford Hodges, Erskine Chenault; Ninth—S. L. Ledbetter, Jr.

The ballot of the Association was cast for these nominees by the Secretary.

### Miscellaneous Business

Montgomery was chosen as the place of meeting in 1936.

Resolution was adopted conveying the Association's appreciation of courtesies shown during the session.

The President for the ensuing year, Dr. C. A. Thigpen, having been handed the gavel by the retiring President, declared the Association adjourned.

## REGISTRATION AT THE SIXTY-EIGHTH CONSECUTIVE ANNUAL SESSION

Mobile, April 16-18, 1935

### LIFE COUNSELLORS

Baker, J. N., Montgomery  
Bondurant, E. D., Mobile  
Cameron, M. B., Eutaw  
Cunningham, W. M., Jasper  
Davie, M. S., Dothan

Harper, W. W., Selma  
Harris, Seale, Birmingham  
Hill, R. S., Montgomery  
McLester, J. S., Birmingham  
Mohr, C. A., Mobile

Oates, W. H., Mobile  
Partlow, W. D., Tuscaloosa  
Ray, J. U., Woodstock  
Thigpen, C. A., Montgomery  
Wilkinson, D. L., Birmingham

## ACTIVE COUNSELLORS

Abernethy, F. L., Foley  
 Acker, P. J. M., Mobile  
 Alison, J. F., Selma  
 Alison, S. B., Minter  
 Anderson, T. J., Greensboro  
 Ashcraft, V. L., Reform  
 Bailey, E. B., Demopolis  
 Bedsole, J. G., Jackson  
 Burdeshaw, S. L., Headland  
 Caldwell, E. V., Huntsville  
 Cannon, D. L., Montgomery  
 Carter, W. R., Repton  
 Chenault, F. L., Decatur  
 Craddock, French H., Sylacauga  
 Dabney, M. Y., Birmingham  
 Dowling, J. D., Birmingham  
 Eskew, M. H., Uniontown  
 Garber, J. R., Birmingham  
 Granger, F. G., Dothan  
 Gresham, W. A., Russellville

Hagood, M. H., Brewton  
 Hayes, C. P., Elba  
 Hollis, J. S., Covin  
 Hough, J. S., Livingston  
 Howell, W. E., Haleyville  
 Hubbard, T. B., Montgomery  
 Jackson, A. A., Florence  
 James, N. G., Hayneville  
 Jordan, S. E., Highland Home  
 Lewis, W. A., Enterprise  
 Lightfoot, P. M., Shorter  
 Lull, Cabot, Birmingham  
 Martin, J. A., Montgomery  
 Martin, J. C., Cullman  
 Mayer, K. A., Lower Peach Tree  
 McAdory, E. D., Cullman  
 McCall, D. T., Mobile  
 Moore, D. S., Birmingham  
 Moxley, J. B., Brantley

Noland, Lloyd, Birmingham  
 Oswalt, G. G., Mobile  
 Parker, L. D., Andalusia  
 Perdue, J. D., Mobile  
 Price, A. B., Gordo  
 Rucker, E. W., Jr., Birmingham  
 Sledge, E. S., Mobile  
 Smith, G. R., Ozark  
 Smith, R. A., Brewton  
 Speir, P. V., Greenville  
 Waldrop, R. W., Bessemer  
 Walker, A. A., Birmingham  
 Walls, J. J., Alexander City  
 Walsh, G. F., Fairfield  
 Ward, H. S., Birmingham  
 White, A. L., Thomasville  
 Wilkerson, Fred, Montgomery  
 Williamson, G. W., Hartford  
 Wood, W. D., Camp Hill  
 Wright, D. H., Berry

## DELEGATES

Baldwin: R. A. Hail, Roberts-  
 dale; J. H. Hastie, Stockton  
 Blount: S. D. Sturkie, Oneonta  
 Bullock: W. H. McCaslan, Union  
 Springs  
 Butler: L. V. Stabler, Greenville  
 Calhoun: J. W. Britton, Annis-  
 ton; Jerre Watson, Anniston  
 Chambers: Hugh McCulloh, Sr.,  
 West Point, Ga.; J. C. Mor-  
 gan, Fairfax.  
 Cherokee: S. C. Tatum, Center  
 Chilton: C. O. Lawrence, Clan-  
 ton  
 Choctaw: W. J. Barber, Butler  
 Clarke: J. C. Godbold, Whatley;  
 G. C. McCrary, Jackson  
 Coffee: F. H. Boyd, Enterprise;  
 E. G. Bragg, Elba  
 Colbert: W. H. Blake, Jr., Shef-  
 field  
 Conecuh: W. B. Moorer, Repton  
 Coosa: J. A. R. Chapman, Good-  
 water  
 Cullman: J. G. Daves, Cullman;  
 R. B. Dodson, Cullman  
 Dale: A. D. Matthews, Ozark;  
 D. P. Pruett, Newton  
 Dallas: Edward Day, Orrville  
 DeKalb: W. J. Campbell, Fyffe;  
 C. D. Killian, Ft. Payne  
 Elmore: J. S. Harmon, Elmore;  
 J. F. Sewell, Wetumpka  
 Escambia: W. L. Abernethy,  
 Flomaton; J. O. Lisenby, At-  
 more  
 Etowah: A. C. Gipson, Gads-  
 den; W. L. Miller, Gadsden

Fayette: A. C. Branyon, Fay-  
 ette; G. E. Stewart, Fayette  
 Franklin: N. P. Underwood,  
 Russellville; W. E. Wilson,  
 Russellville  
 Geneva: E. T. Brunson, Sam-  
 son; I. L. Johnston, Samson  
 Hale: C. A. Poellnitz, Greens-  
 boro  
 Henry: T. B. Woods, Headland  
 Houston: T. K. McFatter, Do-  
 than; V. J. Thacker, Dothan  
 Jackson: Rayford Hodges,  
 Scottsboro; M. H. Lynch,  
 Scottsboro  
 Jefferson: N. L. Andrews, Bir-  
 mingham; R. R. Callaway,  
 Birmingham; M. T. David-  
 son, Birmingham; W. N.  
 Jones, Birmingham; L. E.  
 Kirby, Birmingham; Ralph  
 Morgan, Birmingham; J. A.  
 Ward, Birmingham  
 Lamar: W. J. B. Owings, Vernon  
 Lauderdale: S. S. Roberts, Flor-  
 ence  
 Lee: H. S. Bruce, Opelika; A.  
 H. Graham, Opelika  
 Limestone: J. H. Maples, Elk-  
 mont  
 Lowndes: E. F. Leatherwood,  
 Hayneville  
 Madison: M. M. Duncan, Hunts-  
 ville; W. G. McCown, Hunts-  
 ville  
 Marengo: C. N. Lacey, Demopo-  
 lis; E. T. Norman, Linden

Marion: J. R. Burleson, Hamil-  
 ton; S. S. Busby, Guin  
 Marshall: J. W. Boggess, Jr.; B.  
 C. Scarbrough, Albertville  
 Mobile: F. T. Boudreau, Mo-  
 bile; J. O. Muscat, Mobile;  
 R. W. Stallworth, Mobile  
 Monroe: E. R. Cannon, Vreden-  
 burgh; R. D. Neal, Monroe-  
 ville  
 Montgomery: Robert Parker,  
 Montgomery; J. H. Watkins,  
 Montgomery; C. K. Weil,  
 Montgomery.  
 Morgan: J. C. Bragg, Decatur;  
 A. M. Roan, Decatur  
 Pickens: L. C. Davis, Gordo  
 Pike: M. A. Kirklin, Troy; G.  
 C. Reynolds, Brundidge  
 Randolph: G. W. Bonner, Roan-  
 oke  
 Shelby: H. T. Donovan, Colum-  
 biana  
 St. Clair: J. F. Jenkins, Acmar  
 Sumter: J. P. Scales, Living-  
 ston  
 Talladega: W. H. Hutchinson,  
 Childersburg  
 Tallapoosa: J. T. Banks, Dade-  
 ville; J. A. Chapman, Alex-  
 ander City  
 Tuscaloosa: J. H. Goode, Tusca-  
 loosa; Stuart Graves, Tusca-  
 loosa; P. B. Mayfield, Tusca-  
 loosa  
 Walker: C. K. Gilder, Carbon  
 Hill; M. E. Smith, America  
 Wilcox: Walter Fudge, Lamison



MEMBERS

A

Abernethy, W. H., Troy  
Adams, M. V., Mobile  
Allbritton, L. G., Birmingham  
Allgood, H. W., Fairfield  
Anderson, B. F., Sellers  
Andress, D. G., Madrid  
Armistead, J. R., Prichard  
Auston, P. W., Opelika

B

Bartlett, H. S., Montgomery  
Baumhauer, J. H., Mobile  
Beck, J. E., Mobile  
Bell, J. M., Mobile  
Bird, B. Cosby, Montgomery  
Blake, Theo. M., Mobile  
Blewett, Means, Citronelle  
Board, O. P., Birmingham  
Boswell, F. P., Montgomery  
Bristow, B. T., Bessemer  
Broach, N. L., Pine Level  
Brown, R. Alec, Montgomery  
Brownlee, L. G., Birmingham  
Burdshaw, H. B., Dothan

C

Caine, V. H., Burnt Corn  
Cameron, J. E., Eclectic  
Carpenter, B. S., Fairfield  
Cawthon, E. W., Plateau  
Chason, O. L., Mobile  
Clarke, N. R., Jr., Mobile  
Clayton, Price, Russellville  
Cleveland, C. Hal, Anniston  
Clyde, W. A., Fairfield  
Cochrane, R. H., Jr., Mt. Vernon  
Cocke, W. T., Demopolis  
Cogburn, H. R., Mobile  
Cole, H. P., Mobile  
Cole, L. G., Union Springs  
Collier, J. P., Birmingham  
Connell, I. L., Birmingham  
Conwell, H. Earle, Fairfield  
Conwill, G. B., Tuscaloosa  
Coston, R. M., Birmingham  
Cotlin, C. S., Jr., Wetumpka  
Crowder, J. W., Bessemer  
Cowden, A. M., Mobile  
Cowles, T. D., Troy

D

Dodson, J. H., Mobile  
Donald, D. C., Birmingham  
Donald, W. J., LaFayette  
Douglas, G. F., Birmingham

Dowling, H. B., Mobile  
Durick, S. A., Bay Minette

E

Elliott, J. B., Falkville  
England, J. T., Mobile

F

Feulner, C. D., Selma  
Fonde, E. C., Mobile  
Fonde, G. H., Mobile  
Forcheimer, H. H., Mobile  
Ford, C. H., Birmingham  
Gaillard, S. S., Mobile  
Gaillard, T. H., Magnolia  
Gaines, Toulmin, Mobile  
Gamble, W. M., Wetumpka  
Garrett, J. D., Midland City  
Gaston, C. D., Birmingham  
Gill, D. G., Montgomery  
Godard, C. G., Fairhope  
Godbold, P. E., Pine Hill  
Gray, Hugh, Anniston  
Gray, H. W., Crichton  
Grote, C. A., Huntsville

H

Haas, T. D., Mobile  
Hale, S. F., Mobile  
Hannon, W. C., Mobile  
Heiter, W. L., Mobile  
Henderson, A. D., Mobile  
Hill, Luther, Jr., Montgomery  
Hill, V. H., Mobile  
Hinton, L. H., Mobile  
Hodges, D. E., Prichard  
Hodgson, P. M., Stockton  
Hollis, L. W., Mobile  
Holmes, W. C., Foley  
Hope, J. C., Mobile  
Howard, P. J., Mobile  
Hurst, J. C., Opp

I

Inge, F. M., Mobile  
Inge, J. T., Mobile

J

Jackson, H. L., Birmingham  
Jenkins, J. F., Jr., Birmingham  
Jenkins, L. A., Birmingham  
G. T. Johnson, Mobile  
Johnston, I. L., Samson

Jones, J. D., Sweetwater  
Jones, J. P., Camden  
Jordan, H. W., Robertsdale  
Jordan, J. S., Birmingham

K

Kay, F. A., Tuscaloosa  
Kennedy, Hughes, Jr., Birmingham  
Kiehnhoff, G. W., Tuscaloosa  
Kimbrough, R. M., Birmingham  
King, C. O., Birmingham  
Kyzar, J. H., Andalusia

L

Lester, R. P., Mobile  
Lewis, T. K., Birmingham  
Little, J. H., Mobile  
Littlejohn, W. S., Birmingham

M

Marlette, G. C., New Orleans, La.  
Martin, H. F., Birmingham  
Martin, J. H., Selma  
Maxwell, Alston, Tuscaloosa  
McBurney, Ralph, University  
McCafferty, E. L., Mt. Vernon  
McDaniel, J. C., York  
McCrary, D. O., Mobile  
McGehee, P. D., Mobile  
McLain, A. D., Salem  
McVay, L. V., Mobile  
Meeker, W. R., Mobile  
Mershon, R. B., Fairhope  
Minor, W. H., Mobile  
Mitchell, T. H., Mobile  
Montgomery, J. Ethel, Birmingham  
Moore, C. H., Birmingham  
Moore, F. B., Fairhope  
Morton, L. E., Anniston  
Mulherin, H. G., Mobile

N

Newburn, G. W., Prichard

O

O'Gwynn, J. C., Jr., Mobile

P

Parsons, J. L., Birmingham  
Partridge, C. V., Mobile

Peake, J. D., Mobile  
Perdue, C. C., Mobile  
Peterson, J. J., Mobile  
Prescott, W. E., Sr., Birmingham

## R

Reaves, J. U., Mobile  
Reneke, E. J., Mobile  
Reynolds, R. D., Ozark  
Riggs, S. W., Selma  
Roach, A. N. T., Mobile  
Roberts, M. J., Mobile  
Robertson, J. P., Birmingham  
Roe, L. W., Mobile  
Ross, C. H., Mobile  
Rouse, C. C., Mobile  
Rowe, G. T., Brewton  
Rowe, J. F., Mobile  
Rutherford, C. L., Mobile

## S

Sanders, J. G., Mobile

Segrest, G. O., Mobile  
Sellers, N. E., Anniston  
Sherman, J. R., Phil Campbell  
Simpson, J. W., Birmingham  
Sims, Thomas, Bessemer  
Smith, Greene, Birmingham  
Smith, J. C., Birmingham  
Smith, R. A., Monroeville  
Sorrell, L. E., Birmingham  
Stanley, W. A., Enterprise  
Stephens, D. D., Slocumb  
Stephens, S. H., Mobile  
Suggs, S. D., Montgomery

## T

Taylor, J. L., Mobile  
Thacker, V. J., Dothan  
Thames, Eugene, Mobile  
Thomas, A. E., Montgomery

Thomas, J. L., Holt  
Thompson, W. A., Citronelle  
Thresh, J. N., Grand Bay  
Townsend, C. V., Mobile

## U

Underwood, S. S., Birmingham

## W

Walker, H. S. J., Mobile  
Weldon, J. M., Mobile  
Westcott, W. B., Montgomery  
Whiteside, M. S., Cullman  
Wickliffe, T. F., Jasper  
Williams, K. B., Hartford  
Williams, S. J., Livingston  
Wilson, J. M., Mobile  
Wise, I. M., Mobile

## VISITORS

Dr. Edgar Burns, New Orleans, La.  
Dr. E. N. DeWitt, Bridgeport, Conn.  
Dr. Isadore Dyer, New Orleans, La.  
Dr. C. G. Farish, Mobile  
Dr. A. A. Hayden, Chicago  
Dr. W. L. Heard, Mt. Vernon  
Dr. B. J. Howard, Pensacola, Fla.  
Dr. Kellie Joseph, Decatur  
Dr. J. G. Kerr, New Orleans, La.  
Dr. J. N. Lockard, Pascagoula, Miss.  
Dr. W. B. McGee, New Orleans, La.  
Dr. Neal Owens, New Orleans, La.  
Dr. E. C. Parker, Gulfport, Miss.  
Dr. R. S. Paterson, Prichard  
Dr. J. D. Rayfield, Mobile  
Dr. Nell L. Reaves, Mobile  
Dr. G. H. Semken, New York City  
Dr. W. K. Sharp, Jr., Knoxville, Tenn.  
Dr. Rufus Thames, Milton, Fla.  
Dr. C. C. Webb, Pensacola, Fla.  
Mrs. E. T. Brunson, Samson  
Mrs. J. C. Crittenden, Birmingham  
Mrs. E. N. DeWitt, Fairfield, Conn.  
Mrs. Irene J. Duke, Samson  
Mrs. J. B. Elliott, Jr., Falkville

Miss Betty Ellis, Mobile  
Miss Norma Harrison, Atlanta, Ga.  
Mrs. John V. Henderson, Birmingham  
Mrs. G. J. Jones, Fremont, Mich.  
Mrs. Kellie Joseph, Decatur  
Mrs. G. W. Kiehnhoff, Tuscaloosa  
Mrs. J. C. McDaniel, York  
Mrs. Josephine O'Brien, Jasper  
Mrs. J. L. Parsons, Birmingham  
Mrs. S. W. Riggs, Selma  
Mrs. A. M. Roan, Decatur  
Miss Nellie C. Roan  
Mrs. B. C. Scarbrough, Albertville  
Mrs. G. H. Semken, New York City  
Mrs. H. Spitbe, Atlanta, Ga.  
Mrs. J. J. Walls, Alexander City  
Mrs. W. D. Wood, Camp Hill  
W. M. Anderson, Atlanta, Ga.  
W. C. Blasingame, University  
J. G. Box, Birmingham  
Walter S. Britt, Atlanta, Ga.  
S. L. Chisholm, New York City  
M. E. Conti, Mobile  
Walter D. Davis, Montgomery  
W. D. Davis, Montgomery  
Harold J. Duke, Samson  
Hal E. Duncan, Birmingham  
T. N. Emens, Birmingham  
L. S. Estes, Atlanta, Ga.  
J. V. Henderson, Birmingham

G. J. Jones, Fremont, Mich.  
D. C. Kelley, Jr., Atlanta, Ga.  
Tyler L. Mangum, Birmingham  
C. H. McCall, Gulfport, Miss.  
C. B. McDermott, New Orleans, La.  
T. G. McGonigal, Mobile  
S. B. Mellwain, Pascagoula, Miss.  
J. N. McLane, Pensacola, Fla.  
W. W. McLeod, Montgomery  
A. K. McMillan, Lucedale, Miss.  
Spratt Meredith, Birmingham  
T. F. Moore, Birmingham  
F. B. Neely, Atlanta, Ga.  
G. D. Nulty, Birmingham  
Ralph Osborne, Birmingham  
C. J. Power, Loxley  
Harlan Prater, Jr., Birmingham  
George L. Ramsey, Marietta, Pa.  
R. F. Ratliff, Lucedale, Miss.  
A. M. Roan, Jr., Decatur  
W. T. Sellers, Mobile  
T. T. Skogen, Dell Rapids, So. Dakota  
J. L. Speceland, Lucedale, Miss.  
W. L. Stallworth, Columbus, Miss.  
William Van Antwerp, Mobile  
H. W. E. Walther, New Orleans, La.  
W. J. Weatherford, Pascagoula, Miss.  
Sylv'a Weisman, Mobile  
Forrest Wood, Montgomery



SUMMARY OF ANNUAL ATTENDANCE

Year	Life Counsellors	Active Counsellors	Delegates	Members	Visitors	Total	Place
1910	10	44	83	157	51	344	Mobile
1911	14	53	66	139	19	291	Montgomery
1912	16	63	92	348	40	559	Birmingham
1913	7	49	83	124	17	280	Mobile
1914	16	67	85	226	20	414	Montgomery
1915	32	74	108	429	49	692	Birmingham
1916	19	66	92	106	41	306	Mobile
1917	18	64	96	199	32	409	Montgomery
1918	27	63	80	257	44	471	Birmingham
1919	22	43	87	94	102	348	Mobile
1920	16	61	59	85	51	272	Anniston
1921	26	65	73	183	58	405	Montgomery
1922	26	72	76	314	68	556	Birmingham
1923	14	48	66	106	50	284	Mobile
1924	29	70	84	230	79	492	Montgomery
1925	27	78	97	328	113	643	Birmingham
1926	33	74	105	194	131	537	Mobile
1927	36	85	104	252	87	564	Montgomery
1928	33	77	108	507	106	831	Birmingham
1929	19	60	102	176	109	466	Mobile
1930	32	83	106	286	102	609	Montgomery
1931	26	80	116	410	158	790	Birmingham
1932	19	60	101	158	133	471	Mobile
1933	21	74	103	264	85	547	Montgomery
1934	26	75	97	404	53	655	Birmingham
1935	15	59	91	180	83	428	Mobile

THE ROLL OF COUNSELLORS

REVISION OF 1935

LIFE COUNSELLORS

Name and Address	Date of Election
Andrews, Glenn, Montgomery (2)	1893
Baker, J. N., Montgomery (2)	1905
Betts, William Frank, Evergreen (2)	1904
Bondurant, Eugene DuBose, Mobile (1)	1894
Britt, W. S., Eufaula (3)	1905
Brothers, Thomas J., Anniston (4)	1914
Cameron, Matthew Bunyan, Eutaw (6)	1893
Crutcher, John Sims, Athens (8)	1915
Cunningham, William Moody, Jasper (7)	1912
Davie, Mercer Stillwell, Dothan (3)	1904
Faulk, William M., Tuscaloosa (6)	1913
Givhan, Edgar Gilmore, Montevallo (6)	1903
Gordon, Samuel A., Marion (6)	1913
Gresham, George L., Andalusia (2)	1913
Guice, Charles Lee, Gadsden (5)	1899
Harper, Wm Wade, Selma (4)	1902
Harris, Seale, Birmingham (9)	1903
Harrison, William Groce, Birmingham (9)	1896
Heacock, Jos. D., Birmingham (9)	1912
Heflin, Howell T., Birmingham (9)	1914
Heflin, Wyatt, Birmingham (9)	1893
Hendrick, Walter Branham, Hurtsboro (3)	1915
Hill, Luther Leonidas, Montgomery (2)	1888
Hill, Robert Somerville, Montgomery (2)	1898
Howle, James Augustus, Falkville (8)	1895
James, Ashley D., Choctaw (1)	1915
Jones, Capers Capehart, East Lake (9)	1881
Lupton, Frank A., Birmingham (9)	1913
McCain, William Jasper, Livingston (6)	1898

McElrath, William Sparke, Cedar Bluff (5)	1908
McLeod, John Calvin, Bay Minette (2)	1911
McLester, James Somerville, Birmingham (9)	1913
Mohr, Chas. A., Mobile (1)	1909
Morris, William E., Georgiana (2)	1913
Oates, William Henry, Mobile (1)	1913
Partlow, William Dempsey, Tuscaloosa (6)	1909
Petty, Frank Paul, Decatur (8)	1909
Pride, William Thomas, Madison (8)	1899
Prince, Edward Mortimer, Birmingham (9)	1909
Ray, Jacob Ussery, Woodstock (6)	1906
Sankey, Howard J., Nauvoo (7)	1914
Simms, Benjamin Britt, Talladega (4)	1901
Stewart, John Pope, Attalla (5)	1908
Talley, Dyer Findley, Birmingham (9)	1902
Thigpen, Charles Alston, Montgomery (2)	1900
Turner, James Perry, Cropwell (4)	1912
Ward, Henry Silas, Birmingham (9)	1915
Wilkinson, David Leonidas, Birmingham (9)	1902
Total 48	

ACTIVE COUNSELLORS

Those marked with a † are serving last terms of six years.  
Those marked with an asterisk (\*) are serving second terms of seven years.  
Those without a symbol are serving first terms of seven years.  
The numeral is the number of the congressional district.

	Date of Election	Expiration
Abernethy, Floyd L., Foley (2)	1933	to 1940
Acker, Paul Jerome Morris, Mobile (1)	*1930	to 1937
Alison, James F., Selma (4)	1934	to 1941
Alison, Samuel Blakemore, Minter (4)	†1933	to 1939
Anderson, Thos. J., Greensboro (6)	1933	to 1940
Ashcraft, Virgil Lee, Reform (7)	†1933	to 1939
Bailey, E. B., Demopolis (1)	*1935	to 1942
Beard, Robert Briggs, Troy (2)	1932	to 1939
Bedsole, James Goodman, Jackson (1)	*1929	to 1936
Burdshaw, Shelby L., Headland (3)	†1935	to 1941
Caldwell, Edwin Valdivia, Huntsville (8)	†1932	to 1938
Cannon, Douglas L., Montgomery (2)	*1935	to 1942
Carter, William R., Repton (2)	1934	to 1941
Chandler, Joel C., Columbiana (6)	*1930	to 1937
Chenault, Frank L., Decatur (8)	1917	
Cowles, Wm. L., Birmingham (9)	1933	to 1940
Craddock, French H., Sylacauga (4)	1932	to 1939
Cryer, George A., Anniston (4)	*1932	to 1939
Dabney, Marye Y., Birmingham (9)	*1930	to 1937
Dawling, Judson Davis, Birmingham (9)	*1929	to 1936
Dupree, Marion W., Athens (8)	*1930	to 1937
Eskew, M. H., Uniontown (6)	1934	to 1941
Garber, James R., Birmingham (9)	1932	to 1939
Gilder, George S., Carbon Hill (7)	1934	to 1941
Gragg, Vincent Jones, Clanton (6)	†1935	to 1941
Granger, F. G., Ashford (3)	*1935	to 1942
Greer, William H., Sheffield (8)	†1934	to 1940
Gresham, Walter A., Russellville (7)	1933	to 1940
Hagood, M. H., Brewton (2)	*1931	to 1938
Hatchett, Wm. C., Huntsville (8)	1929	to 1936
Hayes, Charles Philips, Elba (3)	†1934	to 1940
Hayes, Julius Poe, Clanton (6)	†1934	to 1940
Hill, Robert L., Winfield (7)	*1931	to 1938
Hollis, Jonathan Shelton, Cevin (7)	*1930	to 1937
Hough, James Spencer, Livingston (6)	1930	to 1937
Howell, William Edward, Haleyville (7)	†1932	to 1938
Hubbard, T. Brannon, Montgomery (2)	*1932	to 1938
Jackson, Alva A., Florence (8)	†1932	to 1938
James, Norman Gilchrist, Hayneville (2)	†1935	to 1941
Jordan, Samuel E., Highland Home (2)	1933	to 1940
Kirkpatrick, Samuel, Selma (4)	1933	to 1940
Leach, Sydney, Tuscaloosa (6)	†1934	to 1940

## ACTIVE COUNSELLORS—Continued

	Date of	
	Elec- Expi-	
	tion ration	
Lester, Belford S., Birmingham (9).....	*1930 to 1937	
Lewis, Walter A., Enterprise (3).....	1933 to 1940	
Lightfoot, Phillip Malcolm, Shorter (3).....	†1932 to 1938	
Long, Clarence, Hurtsboro (3).....	†1934 to 1940	
Lull, Cabot, Birmingham (9).....	†1933 to 1939	
Martin, James Cordie, Cullman (7).....	1917	
Martin, John A., Montgomery (2).....	1933 to 1940	
Mason, E. M., Birmingham (9).....	*1931 to 1938	
Mason, James Monroe, Birmingham (9).....	†1932 to 1938	
Mayer, Kossuth Aaron, Lower Peach Tree (1).....	†1933 to 1939	
McAdory, Edward Dudley, Cullman (7).....	†1934 to 1940	
McCall, Daniel T., Mobile (1).....	*1930 to 1937	
Moore, David S., Jr., Birmingham (9).....	1932 to 1939	
Moxley, Joseph Benjamin, Brantley (2).....	†1935 to 1941	
Newman, Samuel Harris, Dadeville (5).....	*1932 to 1939	
Noland, Lloyd, Fairfield (9).....	1929 to 1936	
Nolen, John A. M., Alexander City (5).....	†1934 to 1940	
Oswalt, G. G., Mobile (1).....	1929 to 1936	
Parker, Lorenzo D., Andalusia (2).....	1933 to 1940	
Perdue, James D., Mobile (1).....	1933 to 1940	
Price, Albert Bascom, Gordo (7).....	†1933 to 1939	
Ralls, Arthur W., Gadsden (5).....	†1933 to 1939	
Redden, Raymond Hollis, Sulligent (7).....	*1933 to 1940	
Rountree, W. S., Wylam (9).....	*1931 to 1938	
Rucker, Edmon W., Birmingham (9).....	*1929 to 1936	
Salter, Wilbur M., Anniston (4).....	1934 to 1941	
Scott, Walter F., Birmingham (9).....	*1929 to 1936	
Searcy, Harvey Brown, Tuscaloosa (6).....	*1930 to 1937	
Shaddix, Marion L., Alabama City (5).....	1932 to 1939	
Shamblin, John L., Tuscaloosa (6).....	1934 to 1941	
Shropshire, Courtney William, Birmingham (9).....	*1930 to 1937	
Sledge, Edward Simmons, Mobile (1).....	*1929 to 1936	
Smith, Gordon R., Ozark (3).....	1934 to 1941	
Smith, Russell Aubrey, Brewton (2).....	†1932 to 1938	
Speir, Phillip V., Greenville (2).....	1917	
Tankersley, James, Prattville (4).....	*1935 to 1942	
Taylor, Woodie R., Town Creek (8).....	*1932 to 1939	
Thomas, Eugene Marvin, Prattville (4).....	†1934 to 1940	
Waldrop, R. W., Bessemer (9).....	*1929 to 1936	
Walker, Alfred A., Birmingham (9).....	*1930 to 1937	
Walls, J. J., Alexander City (5).....	*1931 to 1938	
Walsh, Groesbeck, Fairfield (9).....	1933 to 1940	
Welch, Stewart, Birmingham (9).....	1934 to 1941	
White, Alexander L., Thomasville (1).....	*1935 to 1942	
Wilkerson, Fred Wooten, Montgomery (2).....	†1933 to 1939	
Williams, Mark Johnson, Oxford (4).....	†1934 to 1940	
Williamson, George W., Hartford (3).....	†1932 to 1938	
Wood, Wiley D., Camp Hill (5).....	1933 to 1940	
Wright, David H., Berry (7).....	1932 to 1939	

Total 91

## COUNSELLORS-ELECT

Chenault, Erskine M., Decatur (8).....	1935 to 1942
Hodges, Rayford, Scottsboro (8).....	1935 to 1942
Ledbetter, Samuel L., Jr., Birmingham (9).....	1935 to 1942
Riser, William H., Lafayette (5).....	1935 to 1942
Scarbrough, B. C., Albertville (5).....	1935 to 1942
Thacker, Vincent J., Dothan (3).....	1935 to 1942
Tillman, John S., Clio (3).....	1935 to 1942
Weldon, Joseph M., Mobile (1).....	1935 to 1942

Total 8

## THE ROLL OF THE COLLEGE OF COUNSELLORS BY CONGRESSIONAL DISTRICTS

On this roll the names of the Counsellors are given by Congressional Districts. It is intended to serve as a guide in the election of new Counsellors, with a view to the distribution of them in approximate proportion to the number of members in the

several districts. It is not considered to be good policy, and it is not considered to be fair and right, to give a few large towns greatly more than their pro rata share of Counsellors. The calculations are based on the nearest whole number. On April 1, 1935, there were 1,449 members in the county medical societies. That would give one Counsellor to every 14 members. The membership set forth in the following is that of April 1.

## FIRST DISTRICT

*Names of Counsellors*—J. G. Bedsole and A. L. White, Clarke; E. B. Bailey, Marengo; E. S. Sledge, P. J. M. Acker, D. T. McCall, G. G. Oswalt, J. M. Weldon, and J. D. Perdue, Mobile; and K. A. Mayer, Wilcox.

County	Members	Counsellors
Choctaw .....	9	0
Clarke .....	10	2
Marengo .....	12	1
Mobile .....	99	6
Monroe .....	10	0
Washington .....	5	0
Wilcox .....	11	1
	156	10

## SECOND DISTRICT

*Names of Counsellors*—F. L. Abernethy, Baldwin; P. V. Speir, Butler; W. R. Carter, Conecuh; L. D. Parker, Covington; J. B. Moxley and S. E. Jordan, Crenshaw; M. H. Hagood and R. A. Smith, Escambia; N. G. James, Lowndes; T. B. Hubbard, F. W. Wilkerson, J. A. Martin and Douglas L. Cannon, Montgomery; and R. B. Beard, Pike.

County	Members	Counsellors
Baldwin .....	13	1
Butler .....	14	1
Conecuh .....	8	1
Covington .....	14	1
Crenshaw .....	10	2
Escambia .....	15	2
Lowndes .....	5	1
Montgomery .....	78	4
Pike .....	19	1
	176	14

## THIRD DISTRICT

*Names of Counsellors*—J. S. Tillman, Barbour; C. P. Hayes and W. A. Lewis, Coffee; G. R. Smith, Dale; G. W. Williamson, Geneva; S. L. Burdeshaw, Henry; V. J. Thacker and F. G. Granger, Houston; P. M. Lightfoot, Macon; and Clarence Long, Russell.

County	Members	Counsellors
Barbour .....	13	1
Bullock .....	8	0
Coffee .....	13	2
Dale .....	10	1
Geneva .....	16	1
Henry .....	5	1
Houston .....	25	2
Lee .....	15	0
Macon .....	10	1
Russell .....	7	1
	122	10



FOURTH DISTRICT

*Names of Counsellors*—James Tankersley and E. M. Thomas, Autauga; W. M. Salter, M. J. Williams and G. A. Cryer, Calhoun; J. F. Alison, S. B. Alison and S. Kirkpatrick, Dallas; and French Craddock, Talladega.

County	Members	Counsellors
Autauga .....	7	2
Calhoun .....	39	3
Clay .....	7	0
Coosa .....	5	0
Dallas .....	38	3
Elmore .....	15	0
St. Clair .....	13	0
Talladega .....	21	1
	145	9

FIFTH DISTRICT

*Names of Counsellors*—W. H. Riser, Chambers; A. W. Ralls and M. L. Shaddix, Etowah; B. C. Scarbrough, Marshall; and J. A. M. Nolen, J. J. Walls, S. H. Newman and W. D. Wood, Tallapoosa.

County	Members	Counsellors
Chambers .....	16	1
Cherokee .....	4	0
Cleburne .....	3	0
DeKalb .....	16	0
Etowah .....	49	2
Marshall .....	19	1
Randolph .....	12	0
Tallapoosa .....	15	4
	134	8

SIXTH DISTRICT

*Names of Counsellors*—J. P. Hayes and V. J. Gragg, Chilton; T. J. Anderson, Hale; M. H. Eskew, Perry; Joel Chandler, Shelby; J. S. Hough, Sumter; and Sydney Leach, H. B. Searcy and J. L. Shamblin, Tuscaloosa.

County	Members	Counsellors
Bibb .....	11	0
Chilton .....	10	2
Greene .....	5	0
Hale .....	5	1
Perry .....	9	1
Shelby .....	17	1
Sumter .....	12	1
Tuscaloosa .....	43	3
	112	9

SEVENTH DISTRICT

*Names of Counsellors*—J. C. Martin and E. D. McAdory, Cullman; J. S. Hollis and D. H. Wright, Fayette; W. A. Gresham, Franklin; R. H. Redden, Lamar; R. L. Hill, Marion; V. L. Ashcraft and A. B. Price, Pickens; G. S. Gilder, Walker; and W. E. Howell, Winston.

County	Members	Counsellors
Blount .....	14	0
Cullman .....	14	2
Fayette .....	8	2
Franklin .....	17	1
Lamar .....	10	1
Marion .....	11	1
Pickens .....	11	2
Walker .....	34	1
Winston .....	8	1
	127	11

EIGHTH DISTRICT

*Names of Counsellors*—W. H. Greer, Colbert; Rayford Hodges, Jackson; A. A. Jackson, Lauderdale; W. R. Taylor, Lawrence; M. D. Dupree, Limestone; E. V. Caldwell and W. C. Hatchett, Madison; and E. C. Chenault and F. L. Chenault, Morgan.

County	Members	Counsellors
Colbert .....	16	1
Jackson .....	11	1
Lauderdale .....	22	1
Lawrence .....	10	1
Limestone .....	10	1
Madison .....	29	2
Morgan .....	24	2
	122	9

NINTH DISTRICT

*Names of Counsellors*—W. L. Cowles, S. H. Welch, J. M. Mason, Cabot Lull, R. W. Waldrop, W. F. Scott, E. W. Rucker, J. D. Dowling, M. Y. Dabney, B. S. Lester, C. W. Shropshire, Alfred A. Walker, E. M. Mason, W. S. Rountree, Lloyd Noland, J. R. Garber, D. S. Moore, Jr., Groesbeck Walsh, and S. L. Ledbetter, Jr.

County	Members	Counsellors
Jefferson .....	351	19

THE ROLL OF CORRESPONDENTS

"Distinguished members of the medical profession residing outside of the State, and Counsellors of the Association, who after not less than ten years of faithful service may have resigned their counsellorships, shall be eligible for election as Correspondents.

"Correspondents shall have the privilege of transmitting or presenting to the Association such communications, or scientific essays, as they may deem proper."—*From the Constitution.*

Name and Address	Date of Election
Andrew J. Coley, Oklahoma City.....	1909
W. S. Thayer, Baltimore.....	1921
Lewellys F. Barker, Baltimore.....	1921
Rudolph Matas, New Orleans.....	1921

Frank Smithies, Chicago.....	1921
John B. Elliott, Jr., New Orleans.....	1921
Howard A. Kelly, Baltimore.....	1921
Wm. J. Mayo, Rochester, Minn.....	1921
George W. Crile, Cleveland, Ohio.....	1921
Henry A. Christian, Boston.....	1921
J. Whitridge Williams, Baltimore, Md.....	1921
Chas. H. Mayo, Rochester, Minn.....	1922
H. A. Royster, Raleigh, N. C.....	1926
Stewart Roberts, Atlanta.....	1927
G. Canby Robinson, Nashville.....	1928
Louis B. Wilson, Rochester, Minn.....	1930
R. S. Cunningham, Nashville.....	1932
A. Benson Cannon, New York.....	1932
J. Shelton Horsley, Richmond.....	1933
Russell L. Cecil, New York.....	1934
George H. Semken, New York.....	1935

#### SCHEDULE OF THE ANNUAL SESSIONS AND PRESIDENTS SINCE THE RE- ORGANIZATION IN 1868

<i>Place and President</i>	<i>Year</i>
Selma—Albert Galatin Mabry.....	1868
Mobile—Albert Galatin Mabry.....	1869
Montgomery—Richard Frazer Michel.....	1870
Mobile—Francis Armstrong Ross.....	1871
Huntsville—Thomas Childress Osborne.....	1872
Tuscaloosa—George Ernest Kumpe.....	1873
Selma—George Augustus Ketchum.....	1874
Montgomery—Job Sobieski Weatherly.....	1875
Mobile—John Jefferson Dement.....	1876
Birmingham—Edward Davies McDaniel.....	1877
Eufaula—Peter Bryce.....	1878
Selma—Robert Dickens Webb.....	1879
Huntsville—Edmund Pendleton Gaines.....	1880
Montgomery—William Henry Anderson.....	1881
Mobile—John Brown Gaston.....	1882
Birmingham—Clifford Daniel Parke.....	1883
Selma—Mortimer Harvey Jordan.....	1884
Greenville—Benjamin Hogan Riggs.....	1885
Anniston—Francis Marion Peterson.....	1886
Tuscaloosa—Samuel Dibble Seelye.....	1887
Montgomery—Edward Henry Sholl.....	1888
Mobile—Milton Columbus Baldridge.....	1889
Birmingham—Charles Higgs Franklin.....	1890
Huntsville—William Henry Sanders.....	1891
Montgomery—Benjamin James Baldwin.....	1892
Selma—James Thomas Searcy.....	1893
Birmingham—Thaddeus Lindley Robertson.....	1894
Mobile—Richard Matthew Fletcher.....	1895
Montgomery—William Henry Johnston.....	1896
Selma—Barckley Wallace Toole.....	1897
Birmingham—Luther Leonidas Hill.....	1898
Mobile—Henry Altamont Moody.....	1899
Montgomery—John Clarke LeGrande.....	1900
Selma—Russell McWhorter Cunningham.....	1901
Birmingham—Edwin Lesley Marechal.....	1902
Talladega—Glenn Andrews.....	1903
Mobile—Matthew Bunyan Cameron.....	1904
Montgomery—Capers Capehart Jones.....	1905
Birmingham—Eugene DuBose Bondurant.....	1906
Mobile—George Tighlman McWhorter.....	1907
Montgomery—Samuel Wallace Welch.....	1908
Birmingham—Benjamin Leon Wyman.....	1909
Mobile—Wooten Moore Wilkerson.....	1910

<i>Place and President</i>	<i>Year</i>
Montgomery—Wyatt Heflin Blake.....	1911
Birmingham—Lewis Coleman Morris.....	1912
Mobile—Harry Tutwiler Inge.....	1913
Montgomery—Robert S. Hill.....	1914
Birmingham—Benjamin Britt Simms.....	1915
Mobile—James Norment Baker.....	1916
Montgomery—Henry Green.....	1917
Birmingham—William Dempsey Partlow.....	1918
Mobile—Isaac LaFayette Watkins.....	1919
Anniston—James Somerville McLester.....	1920
Montgomery—Louis William Johnston.....	1921
Birmingham—Dyer F. Talley.....	1922
Mobile—Walter S. Britt.....	1923
Montgomery—W. W. Harper.....	1924
Birmingham—J. D. Heacock.....	1925
Mobile—C. A. Mohr.....	1926
Montgomery—A. L. Harlan.....	1927
Birmingham—John D. S. Davis.....	1928
Mobile—E. V. Caldwell.....	1929
Montgomery—L. E. Broughton.....	1930
Birmingham—W. G. Harrison.....	1931
Mobile—Toulmin Gaines.....	1932
Montgomery—Samuel Kirkpatrick.....	1933
Birmingham—James R. Garber.....	1934
Mobile—William M. Cunningham.....	1935

#### SECRETARIES OF THE MEDICAL ASSOCIA- TION OF THE STATE OF ALABAMA

1852-1854.....	George A. Ketchum
1854-1855.....	R. Miller
1869-1873.....	Jerome Cochran
1874-1878.....	B. H. Riggs
1879-1892.....	T. A. Means
1893-1897.....	J. R. Jordan
1897-1904.....	G. P. Waller
1904-1906.....	L. C. Morris
1906-1915.....	J. N. Baker
1915-1923.....	H. G. Perry
1923-1924.....	Douglas L. Cannon
1924-1930.....	B. B. Simms
1930-.....	Douglas L. Cannon

#### TREASURERS OF THE MEDICAL ASSOCIA- TION OF THE STATE OF ALABAMA

1854-1855.....	W. P. Reese
1869-1898.....	W. C. Jackson
1898-1915.....	H. G. Perry
1915-.....	J. U. Ray

#### SCHEDULE OF JEROME COCHRAN LECTURERS

1899—J. T. Searcy, Tuscaloosa—What Is Insani- ty?
1900—Wm. Osler, Baltimore—Not present.
1901—Wm. Osler, Baltimore—Not present.
1902—Nathan Bozeman, New York—Declined.
1903—George H. Price, Nashville—The History of Medicine.
1904—W. S. Thayer, Baltimore—Cardiac and Vascular Complications of Typhoid Fever.



1905—Robert Abbe, New York—The Problems of  
1906—Joseph Collins, Boston—Arteriosclerosis.

# Surgery.

1907—Nicholas Senn, Chicago—Final Triumph of  
Scientific Medicine.

1908—E. L. Marechal, Mobile—Absent.

1909—Lewellys F. Barker, Baltimore—Clinical  
Methods of Cardiac Investigation.

1910—Frank S. Meara, New York—Some Prob-  
lems of Nutrition in Early Life.

1911—Rudolph Matas, New Orleans—Inflamma-  
tory Tuberculosis.

1912—Maurice H. Richardson, Boston—Elimina-  
tion of Preventable Disasters from Surgery.

1913—L. L. Hill, Montgomery—Surgical Compli-  
cations and Sequelae of Typhoid Fever.

1914—Frank Smithies, Chicago—Contributions  
of the Twentieth Century to the Better Under-  
standing of Gastric Cancer.

1915—John B. Elliott, Jr., New Orleans—Abscess  
of Liver.

1916—Howard A. Kelly, Baltimore—Radium Ther-  
apy.

1917—Wm. J. Mayo, Rochester—Importance of  
Septic Infection in the Three Great Plagues.

1918—George E. Bushnell, Washington—The  
Army in Relation to the Tuberculosis Problem.

1919—George W. Crile, Cleveland, Ohio—Abdom-  
inal Surgery in Civil and Military Hospitals.

1920—Henry A. Christian, Boston—Bright's Dis-  
ease With Special Reference to Its Treatment.

1921—J. Whitridge Williams, Baltimore—A Crit-  
ical Review of Twenty-One Years' Experience with  
Caesarean Section.

1922—Chas. H. Mayo, Rochester, Minn.—The  
Thyroid and Its Diseases.

1923—Jas. S. McLester, Birmingham—Nutrition  
in Its Newer Aspects.

1924—James S. Stone, Boston—Abdominal Diag-  
noses in Children.

1925—H. A. Royster, Raleigh—The Surgeon's  
Heritage and Outlook.

1926—Stewart Roberts, Atlanta—The Heart  
Muscle.

1927—G. Canby Robinson, Nashville—The Me-  
chanism of Heart Failure and Its Correction.

1928—John B. Deaver, Philadelphia—Chronic  
Pancreatitis.

1929—Louis B. Wilson, Rochester, Minn.—Some  
Suggestions for Improved Training of Medical  
Specialists.

1930—Walter E. Sistrunk, Dallas, Texas—The  
Part That Surgical Anesthesia Has Played in Med-  
ical Science.

1931—R. S. Cunningham, Nashville, Tenn.—  
Studies on the Pathology of Tuberculosis and  
Syphilis.

1932—A. Benson Cannon, New York—Practical  
Points on the Diagnosis and Treatment of the so-  
called Lymphoblastoma Group of Diseases.

1933—J. Shelton Horsley, Richmond—Cancer of  
the Stomach and Colon.

1934—Russell L. Cecil, New York—Present  
Trends in the Study of Rheumatic Fever and  
Rheumatoid Arthritis.

1935—George H. Semken, New York—A Consid-  
eration of Tumors of the Breast.

## OFFICERS OF THE ASSOCIATION

1935-1936

### PRESIDENT

C. A. THIGPEN (1936).....Montgomery

### VICE-PRESIDENTS

E. D. McADORY (1936).....Cullman

A. B. COXWELL (1937).....Monroeville

W. M. SALTER (1938).....Anniston

C. P. HAYES (1939).....Elba

### SECRETARY

DOUGLAS L. CANNON (1939).....Montgomery

### TREASURER

J. U. RAY (1938).....Woodstock

### THE STATE BOARD OF CENSORS

E. V. CALDWELL, Chm. (1940).....Huntsville

S. A. GORDON (1940).....Marion

D. T. McCALL (1936).....Mobile

M. H. DABNEY (1936).....Birmingham

W. D. PARTLOW (1936).....Tuscaloosa

T. W. HUBBARD (1937).....Montgomery

F. W. WILKERSON (1938).....Montgomery

M. S. DAVIE (1938).....Dothan

J. D. PERDUE (1939).....Mobile

LLOYD NOLAND (1939).....Fairfield

### STATE HEALTH OFFICER

J. N. BAKER (1940).....Montgomery

### DELEGATES AND ALTERNATES TO THE AMERICAN MEDICAL ASSOCIATION

Delegate—J. N. BAKER.....Montgomery

Alternate—FRED WILKERSON.....Montgomery

Delegate—A. A. WALKER.....Birmingham

Alternate—G. O. SEGREST.....Mobile

(Terms expire with the 1937 session of the  
American Medical Association)

### COMMITTEE ON PUBLIC RELATIONS

JOHN A. MARTIN, Chairman.....Montgomery

G. O. SEGREST.....Mobile

S. KIRKPATRICK.....Selma

J. R. GARBER.....Birmingham

M. M. DUNCAN.....Huntsville

### COMMITTEE ON MENTAL HYGIENE

FRANK A. KAY, Chairman, Tuscaloosa.....1938

J. G. BEDSOLE, Jackson.....1937

E. L. McCAFFERTY, Mt. Vernon.....1936

### COMMITTEE ON MATERNAL AND INFANT WELFARE

A. E. THOMAS, Chairman, Montgomery.....1938

HUGHES KENNEDY, JR., Birmingham.....1937

J. M. WELDON, Mobile.....1936

### COMMITTEE ON PREVENTION OF CANCER

K. F. KESMODEL, Chairman, Birmingham.....1938

J. P. CHAPMAN, Selma.....1937

H. M. SIMPSON, Florence.....1936

### COMMITTEE ON PREVENTION OF BLINDNESS AND DEAFNESS

LUCIEN BROWN, Chairman, Gadsden.....1936

HARVEY SEARCY, Tuscaloosa.....1937

B. B. WARWICK, Talladega.....1938

## THE ASSOCIATION FORUM

*(Under this heading will appear, from time to time, as occasion may arise, contributions having a direct bearing on the general policies, functions and interests of the Association. Articles submitted should be of an impersonal nature.)*

### POSTGRADUATE COURSES FOR PHYSICIANS

Fred W. Wilkerson, M. D., Montgomery  
Member of State Board of Censors

For several years the State Board of Censors, working in close harmony and co-operation with the State Health Officer, has endeavored to interest out-of-state agencies, such as the Children's Bureau and some of the philanthropic foundations, in the promotion of refresher courses in certain branches of medicine to be carried to the rurally located physicians throughout the State. Last year, through the aid of the Children's Bureau, a splendid series of lectures on obstetrics were given by Dr. J. R. McCord, of Atlanta, a recognized authority on this subject. If one may judge the success of this venture by the number of appreciative letters received from the physicians over the State, no doubt can be had as to its value. Encouraged by the cordial manner in which Dr. McCord was received and by the great good accomplished through this course of lectures, the Board made effort to extend this type of service into other fields and at our meeting in Mobile made to the Association the recommendation quoted below which was unanimously endorsed:

### POSTGRADUATE COURSES FOR PHYSICIANS

The Board is keenly alive to the need and value of postgraduate work to every physician, in order to keep fully abreast of scientific progress and to be in position to render a maximum service to his patients. The difficulties of procuring these much needed advantages for many physicians are, in some instances, almost insuperable. Consequently, the Board has always viewed with favor any plan through which the newer things in medicine might be made easily available to physicians and with little or no loss to them in time or money.

Quite recently, through the efforts of this Board and of the State Health Officer, the Federal Children's Bureau in Washington has offered to finance, in large part, a two-months' course in pediatrics, to be held at various points in the State provided this Association would agree to underwrite a comparatively small portion—\$300.00—of the cost. It is planned that this course will be held during the ensuing summer months and will

be conducted by an outstanding pediatrician, trained in teaching methods. The Board, therefore, recommends to the Association that it be authorized to make this expenditure for the purpose stated above.

The Board should like to go even further. During the past year or more effort has been made on its part to encourage one or more of the philanthropic agencies, such as the Milbank and Kellogg Foundations which are peculiarly interested in the promotion of refresher courses for practicing physicians, to lend their cooperation to Alabama in this work. The plan generally adopted in most states has been a joint one between the Foundation and the State Medical Association with a small fee being charged the physicians attending the courses. In order to be in position to take advantage of such opportunities as might develop in the future, looking to the further development of postgraduate courses, it is recommended that the Association place at the disposal of this Board a certain amount of Association funds, not to exceed \$300.00 per annum, to be utilized in providing postgraduate courses for the physicians of the State, if and when, in its opinion the expenditure of a part or all of this amount seems wise and sound.

Since our Mobile meeting, the plans have been perfected for this course in pediatrics, which began on July 15th and will be continued at various points in the State within the next two months. Through the State Health Officer's office physicians will be notified of the exact places and times of such meetings in ample time to arrange to attend.

On behalf of the Board I should like to urge every physician who can possibly do so to attend each and every one of the lectures. The men selected to deliver these lectures are outstanding in their specialty and no doctor can afford to miss them.

To illustrate how one doctor valued this effort to bring these courses to our physicians the following letter, recently received, is here reproduced:

Dr. J. N. Baker,  
State Health Officer,  
Montgomery, Alabama.

Dear Doctor Baker:

I esteem it a duty as well as a privilege to acknowledge receipt of notice of the course in pediatrics to be given at Jasper, sponsored by the Alabama State Medical Association. Grateful as I am



for the much coveted privilege of attending this interesting course of study so generously offered by you, as Special Agent of the Children's Bureau, and as Health Officer of the most progressive State in the Nation, from the standpoint of public health, I do sincerely regret that previous arrangements preclude my attendance.

I regret my inability to attend the course, because diseases of infancy and childhood have been a hobby of mine even before my graduation, forty years, and for me it has lost none of its fascination. Each year, since 1932, I spend 4 to 6 weeks in Louisville, Kentucky, with my son, who has a fine library which he keeps well supplied with current medical thought, to which I have free access. With these advantages, it is almost like taking a postgraduate course, once a year. I am due to be in Louisville on the 12th day of July. This fact stands in the way of a great privilege which I am sorry to lose. However, I am with you, heart and soul, in the great work you are undertaking to conserve the child life of Alabama.

It has always been my theory that the child born of healthy parentage is a physically sound child, and, if properly cared for from infancy on, will

remain sound. In this most important phase of your noble health work, the intelligent, well trained mother is your best ally, because the foundation of most diseases of the adult is laid in infancy, at which time he is under the mother's care. I contend that no doctor has earned his fee until he has instructed the mother how to care for her baby through infancy. If every doctor would perform this slight service, your problem would soon be solved. The doctors owe this service to you, as well as to the State and Nation. We doctors over here in Marion County will not let you carry the whole load, not if we can help it. Be assured that we are cooperating with you, in the great work you are doing for the people of Alabama.

I hope to return to Hamilton by the first of September, and possibly have an opportunity to attend a session of the offered course after my return. With our travel facilities, I could avail myself of this privilege, even in some adjoining county.

With best wishes, I subscribe myself,

Yours respectfully,

J. C. Johnson.

Hamilton, Alabama,

June 29, 1935.

## DEPARTMENT OF PUBLIC HEALTH

### BUREAU OF ADMINISTRATION

J. N. Baker, M. D.

State Health Officer in Charge

### TRAINING OF HEALTH OFFICERS AND HEALTH PERSONNEL

Title VI of the Social Security Act, now before Congress, but which, at this writing, has not become law, provides for an annual appropriation to the United States Public Health Service for the expansion and development of health service on a nation-wide basis in each state. Of the three thousand odd counties in the United States, only about five hundred are manned with full-time health units and of these fifty-three are in Alabama. The plan of county organization for health work, or, where counties are of small area, combinations of counties, is, today, recognised as the soundest approach for efficient health administration. Alabama was a pioneer state in this type of organization and the second full-time health unit to be launched in the United States was in Walker County in 1914. Because of our unique plan of having health work throughout the State administered through and by the organized medical profession, this State rapidly took the leadership and, for some years, had

more of its counties organized than any other state. This plan of health administration is no longer in the experimental stage, but has been adopted by the Service as the proper approach for the development of health service throughout the Nation.

At the recent Conference of State and Provincial Health Officers with the Surgeon General's staff plans were formulated for the utilisation of the appropriation likely to be made available for these purposes and also for the training and qualification of health personnel. The fact was appreciated that in a program of rapid expansion there would be great need for adequate provision to be made for the training of the personnel required for such expansion. To meet this need facilities will be developed as rapidly as possible along the following lines:

#### FACILITIES FOR THE TRAINING OF PERSONNEL

1. That the regular courses now given by the University schools of public health be regarded as their paramount duty, and that the giving of short courses by such schools be so limited as not to interfere with the conduct of these fundamental courses.

2. That it seems necessary to organize a limited number of special short courses designed to serve

groups of states. These courses should be established in connection with University schools of medicine, selecting these schools on the basis of the character of the teaching personnel locally available. It will probably be necessary in most cases to supplement existing personnel by the detail of Service officers or the employment of supplementary teachers.

3. The course given in any such training center will be based necessarily on the available teaching force and laboratory facilities. It should include courses in Public Health Bacteriology and Immunology, Biostatistics, Epidemiology, Sanitary Engineering and Health Administration, including field teaching. In schools serving Southern States, Medical Zoology should be emphasized in the course.

4. In general two months of systematic instruction should be regarded as the minimum. An additional month of apprenticeship under a well-trained and experienced health officer, preferably in the state in which the trainee expects to work, should be required. Supervision of the trainee during this field apprenticeship should be provided by the training center.

5. That the responsibility for selecting training centers, outlining the general course of instruction, and arranging the financial details of the work be assumed by the Public Health Service.

6. The cost of establishing and operating any such centers shall be prorated among the states served by it, and paid for from the funds allotted to these states for this purpose.

7. Similar principles shall be followed in setting up training centers for public health nurses.

8. Courses for sanitarians of the different grades should be organized along the same general lines, the courses to be worked out on the basis of experience.

9. All trainees of whatever grade should be given systematic teaching in the general principles of public health administration.

## BUREAU OF PREVENTABLE DISEASE CONTROL

D. G. Gill, M. D., Director

### POLIOMYELITIS

The outbreak of poliomyelitis occurring in two of our sister states this summer has focused the attention of the public on this disease and has created uneasiness as to the possibility of its spread to Alabama.

For the first six months of the year there were reported in Alabama twenty-one cases of the disease, which is slightly above the normal expectancy. Each year we have about fifty cases reported, with about sixty-five per cent of them occurring in the last six months of the year, and most of these

in the three summer months, July to September. The disease is definitely a disease of hot weather, subsiding with the beginning of fall.

Just how the disease is spread is not definitely known, but the usual assumption, and the most likely one, is that it is spread by transfer of secretions of the nose and throat. We know that there are chronic carriers of other diseases and, therefore, are probably safe in assuming that there are likewise carriers of poliomyelitis who do not, themselves, develop the disease, but can transmit it to others. Occasionally it is possible to trace contact to a previous case, but usually there is only one case in a family and frequently only one case in a community.

The symptoms of the disease may be very mild and unless paralysis occurs no diagnosis is ever made. Most authorities agree that adults are largely immune to the disease, probably as the result of these mild sub-clinical or unrecognized attacks. In the absence of an epidemic the diagnosis is very difficult or impossible.

Serum from recovered patients has been used extensively in the treatment of the disease, but latest opinion seems to be unanimous that this convalescent serum is of little or no value. It may have a place in the treatment of the early, pre-paralytic cases, but a diagnosis is rarely made early enough to indicate its use.

Research as to the causative organism has not, as yet, revealed one, but it has been possible to transmit the disease to the *Macacus rhesus* species of monkey and extensive work has been done towards developing an immunizing agent. Brodie,<sup>1</sup> working in the laboratories of the New York Health Department, has produced a killed vaccine (from the spinal cord of infected monkeys) which is given in a single 5 cc. dose and which has proven efficacious in producing immunity. Kolmer,<sup>2</sup> at Temple University and the Research Institute of Cutaneous Medicine, Philadelphia, has also produced a vaccine (living but attenuated virus from spinal cords of infected monkeys) which is given in three doses of 0.25

1. Brodie, Maurice: Am. J. Pub. Health, 25: 55-67 (Jan.), 1935.

2. Kolmer, J. A., Klugh, G. F., and Rule, Anna M.: J. A. M. A., 104: 456-460 (Feb. 9), 1935.



to 1.0 cc., depending on age and which has proven efficient.

Both these vaccines require further study before being generally adopted, but they offer promise of meeting the need for a preventive of this disease.

#### WASSERMANN-FAST PATIENTS

Wassermann-fast patients are a source of worry and annoyance to physicians who treat syphilis. It seems, sometimes, that no matter what is done the patient still remains Wassermann positive.

Treatment, of course, should be continued over a long enough period and by recognized methods of dosage and time interval in order that the continued positive serologic state may not be the result of inadequate treatment. If adequate treatment has been given and the patient still maintains a positive Wassermann, then there are a few recognized methods of treating this Wassermann-fastness. Changing the drug is probably the most important element in the range of possibilities for obtaining negative Wassermans. Rest periods are worthy of trial. The test may become spontaneously negative in three to twelve months and remain negative, especially if bismuth has been used as one of the drugs in the scheme of treatment. Rest period, followed by change of drug, may change the serologic state where either one, when used individually, has failed. Bismuth and bismuth arsenic compounds have a great tendency to change Wassermann-fast patients to negative ones. Sodium iodide, 1 to 10 gm. daily in a 10% solution and given intravenously; sodium thiosulphate, 10 to 20 cc. of a 20% solution for twelve to fifteen injections; or 5 to 10 cc. of milk boiled for five minutes and given intramuscularly have been shown to be useful in changing a positive serologic state to a negative one.

Autohemotherapy, physiotherapy (ultraviolet light), balneotherapy (sulphur baths, turkish baths) and fever therapy (typhoid-paratyphoid vaccine and malarial therapy) have all been shown at various times to produce the desired negativity.

Each suggested method has been used individually, but combinations may be tried where any individual method has failed.

#### BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

##### HIGH POINTS FROM THE INSTITUTE ON MATERNITY AND CHILD HEALTH

All that is new in maternity and child health was discussed, exhibited and demonstrated at the Regional Institute on Maternity and Child Health under the auspices of The National Organization For Public Health Nursing and the Maternity Center Association, in cooperation with The New York Hospital in New York City June 10-17, 1935.

It was the writer's privilege to attend this Institute and she wishes it were possible to put into writing all of the interesting papers and discussions given.

Maternity was the subject on the opening days; venereal diseases and tuberculosis were considered on the third day; the last three days were devoted to child development in all its aspects.

The most outstanding paper and discussion on "Hygiene of Pregnancy, Detection, Prevention and Treatment of Toxemias" was given by Dr. Henricus J. Stander, Professor of Gynecology and Obstetrics, Cornell University Medical College; Gynecologist and Obstetrician in Chief, New York Hospital.

Dr. Stander said: "Prenatal care is the care and management of normal pregnancy; that a prenatal patient should be visited by a public health nurse as often as she is by her physician, beginning after the first period is missed. She should be visited every three weeks until the seventh month, every two weeks until the ninth month, and once every week during the ninth month. On each visit the blood pressure should be taken, urinalysis made and weight checked.

"Diet is most important in pregnancy. There is a certain group who will tell a pregnant mother that she must eat for two and yet a patient in New York Hospital recently delivered a perfectly normal seven pound baby and she weighed ten pounds less at termination of pregnancy than she did when she became pregnant. If the weight increases more than twenty-five pounds, associate with toxemia. Twenty-two pounds is the average and drops about

two or three pounds just before delivery. Toxemia is more prevalent in overweight, in excess of twenty-five pounds. We can't tell what causes the increase in weight but we can tell what it will cause. It is usually said that a prenatal should have a quart of milk a day. A quart of milk has about twice as much calcium as a prenatal needs, therefore, suggest orange or tomato juice, lettuce and one pint of milk. Twelve to eighteen hundred calories a day are sufficient, provided the diet is a well balanced one. From the beginning to the first half of pregnancy the patient loses more protein than she takes into her body but gains it back in the last half. A pregnant woman has not the ability to make a marked change in diet that she had before she became pregnant. The woman who becomes pregnant goes through a great metabolic change. At the end of pregnancy she is quite a different person from what she was at the beginning. A tenth pregnancy is just as important as the first. It is far more important for the multipara to be delivered in the hospital than a primipara."

In concluding Dr. Stander gave some interesting points that would help to lower the maternal mortality rate.

"Infections may be prevented by teaching the hygiene of the body, this being as important for the father as for the mother.

"Obstetrics and gynecology should be placed on the same basis as surgery. Proper instructions in maternity care should be afforded nurses. We must improve obstetrics in this country. In a few years we will be far ahead of all other countries in maternity care through an educational system."

Dr. Benjamin P. Watson in his paper on "Labor and Delivery" said: "The preparation for the easiest delivery possible begins long before the time labor begins. Most women approach the time of delivery with fear. We must teach them different. The prenatal examination should be made so that the physician will be able to tell the patient she is a normal individual and can have a perfectly normal delivery."

Many other interesting points were brought out by Dr. Watson which cannot be recorded.

Dr. Josephine H. Kenyon gave an interesting report of her four-years' study of

"The Growth and Development of the Child: From the Aspect of Glandular Balance."

This was followed by a sixteen-year study of "Cardiac Conditions," by Dr. May Wilson. This study will last four more years.

After seeing the many wonderful opportunities offered to the pregnant woman by The New York Hospital, the writer realizes the limitations of the best public health nursing rural service we can offer mothers in Alabama.

M. L. M.

## BUREAU OF VITAL STATISTICS

Leonard V. Phelps, Director

### SUICIDES IN ALABAMA

In 1934, there were 192 deaths from suicide. The death rate (7.0 per 100,000 population) was somewhat higher than the figure for the preceding year (6.7).

Suicides are primarily a problem of the white population in this State. Of the 192 deaths from this cause, 171 or 89.1 per cent were white and only 21 or 10.9 per cent colored. The white death rate was 9.7 and the colored 2.1 per 100,000 population. The rate has increased annually since 1923, reaching a maximum (8.2) in 1930, the same rate prevailing in 1931. The rate in 1932 (8.0) was but slightly lower. The figure for 1933 was the lowest since 1928. The white death rate was more than four times that of the colored in 1934.

Information is not yet available concerning the means used to commit suicide in 1934, but it is given for 1933.

In 63.8 per cent of the suicides, firearms were the means used; poisoning, in 21.1 per cent; drowning, 4.9 per cent; hanging, 3.2 per cent; poisonous gas, 2.2 per cent, and jumping from high places, 2.2 per cent. Firearms were used as a means of suicide three times as frequently as any other method.

There were 126 white male suicides; 74.6 per cent by firearms; 15.9 per cent, poisoning; 4.0 per cent, hanging and 2.4 per cent, poisonous gas. Of the 48 white female suicides, 37.5 per cent were by poisoning; 33.3 per cent, firearms, and 12.5 per cent, drowning.



The age distribution of deaths from suicide in 1933 shows this to be an important cause of death in each age group above fifteen years.

It is of interest to note that while death from homicide was four times as likely to occur among the colored population in 1934 as among the white the opposite was true of suicide.

DEATHS AND DEATH RATES FROM SUICIDE, PER 100,000 POPULATION, BY COLOR, ALABAMA, 1914-1934

	Total		White		Colored	
	No.	Rate	No.	Rate	No.	Rate
1914	111	5.0	90	6.8	22	2.4
1915	79	3.5	70	5.2	9	1.0
1916	83	3.6	70	5.1	13	1.4
1917	111	4.8	93	6.7	18	2.0
1918	76	3.3	66	4.7	10	1.1
1919	65	2.8	52	3.6	13	1.4
1920	77	3.3	73	5.0	4	0.4
1921	96	4.0	88	5.9	8	0.9
1922	95	3.9	82	5.4	13	1.4
1923	91	3.7	74	4.8	17	1.8
1924	103	4.2	86	5.5	17	1.8
1925	129	5.1	118	7.5	11	1.2
1926	138	5.4	123	7.7	15	1.6
1927	153	6.0	143	8.8	10	1.1
1928	155	6.0	129	7.8	26	2.8
1929	193	7.4	169	10.0	24	2.5
1930	217	8.2	201	11.8	16	1.7
1931	219	8.2	196	11.4	23	2.4
1932	217	8.0	199	11.4	18	1.8
1933	185	6.7	174	9.9	11	1.1
1934	192	7.0	171	9.7	21	2.1

CURRENT STATISTICS

\*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

	Estimated Expectancy		
	May	June	June
Typhoid	22	94	69
Typhus	14	34	7
Malaria	482	897	279
Smallpox	4	2	42
Measles	580	335	404
Scarlet fever	28	30	32
Whooping cough	162	145	197
Diphtheria	48	38	42
Influenza	119	98	48
Mumps	69	85	51
Poliomyelitis	2	10	4
Encephalitis	3	5	4
Chickenpox	161	44	57
Tetanus	5	6	4
Tuberculosis	317	362	444
Pellagra	56	148	108
Meningitis	3	6	3
Pneumonia	310	144	117
Syphilis	758	922	171
Chancreoid	8	7	6
Gonorrhea	371	384	185
Ophthalmia neonatorum	0	1	1
Trachoma	0	3	0
Tularemia	4	0	0
Undulant fever	6	5	2
Dengue	1	8	0
Amebic dysentery	1	6	0
Rabies—Human cases	0	0	0
Positive animal heads	63	59	—

\*As reported by physicians and including deaths not reported as cases.  
The Estimated Expectancy represents the median incidence of the past nine years. With the venereal diseases, clinic cases were not included prior to this year.

Book Abstracts and Reviews

Failure of the Circulation. By Tinsley Randolph Harrison, M. D., Associate Professor of Medicine, Vanderbilt University School of Medicine, Nashville, Tennessee. Cloth. 396 pages. The Williams and Wilkins Company, Baltimore, Md. 1935.

There are few members of the medical profession of the State of Alabama who are unacquainted with our beloved colleague, a former president of the State Medical Association—Doctor William Groce Harrison. Less well known to the profession of this state is his son, Tinsley Randolph Harrison, Associate Professor of Medicine at the Vanderbilt University School of Medicine. It is no fault of the younger Harrison that his fame in his own state has failed to outshine his father's, for he has published, in conjunction with his colleagues, a large number of articles dealing with the subject of heart failure. His lack of general recognition by the profession of his native state is, perhaps, due to the fact that these articles dealt largely with experimental data on various phases of heart failure rather than with the practical problems of diagnosis and treatment.

In his book on "The Failing Circulation" Doctor Harrison has shown the practical value of his researches. Omitting the discussion of etiology and pathology and functional disturbances he has confined his description entirely to the mechanism of heart failure, offering physiological explanations of each symptom, showing the effect of the circulatory failure on the function of other parts of the body, indicating the prognosis and the proper methods of treatment. It is an extremely practical discussion, dealing more with explanations of how and why the heart fails than with descriptions of symptoms.

The medical profession of this state should feel a sense of pride in this book by an Alabama doctor who is the son of an Alabama doctor. C. K. W.

Emotions and Bodily Changes. A Survey of Literature on Psychosomatic Interrelationships 1910-1933. By H. Flanders Dunbar, M. D., Ph. D., Departments of Medicine and Psychiatry, Columbia University. Published for the Josiah Macy, Jr., Foundation by Columbia University Press. New York City. 1935. Price \$5.00.

The very title of this book should invite a reading. Being "A Survey of Literature on Psychosomatic Interrelationships" it is a book that should be owned and read by every medical practitioner whose mind as well as his heart is in his work, for it introduces the reader to new concepts in medicine.

The import of the new concepts is tremendous, for it means that the medical man of the future will have healing powers all the more potent because he will better understand their use. The mind aspect of the body-mind unity, that so long has been left to religion and philosophy, is receiving serious scientific study. What was unbelievable is becoming believable. How the emotions may bring about bodily changes and how cures may be obtained by psychotherapy read like tales of the miraculous.

In the literature of science a deep, sweet chord is being sounded that harmonizes with old intuitive beliefs. Physicists, biologists, psychologists, phy-

sio'logists, internists and surgeons have turned about face and are looking back from the physical to the psychical. There is an order in nature and the world grows purposeful. The organism is an integrated whole in adjustment with environment and matter-mind is becoming a mind-matter concept.

The value of the book is not only its timeliness but in the liberal quotations from the original minds that do our thinking for us. Medicine is entering a new era of thought and its leaders at last are looking into the wonderland of the mind.

C. H. R.

**The Principles and Practice of Urology.** By Frank Hinman, A. B., Leland Stanford Junior University; M. D., Johns Hopkins Medical School. Clinical Professor of Urology at the University of California Medical School. 1,111 pages with 513 illustrations and 48 tables. Philadelphia and London: W. B. Saunders Company, 1935. Cloth, \$10.00 net.

As a text-book of urology this volume by Hinman should take first rank. For the benefit of the student, he deals as much with the principles of urology as with its practice. He presents his subject from the standpoint of anatomy, embryology, comparative anatomy, physiology, pathology and medical and surgical practice. Written with a broad knowledge of the various fields of medicine, the book never lets the reader get the idea that urology is a special field of medicine divorced from all other fields. The author, on the contrary, is constantly pointing out the relation of the urinary tract to the rest of the body. Urogenital tuberculosis is but a phase of tuberculosis, a complication of pulmonary or intestinal tuberculosis. Stone formation and its relation to vitamin deficiency and the ketogenic diet in its relation to the treatment of urinary infections indicate the relation of diet to urology. The effect of diseases of the nervous system on the bladder, or of sexual maladjustment on the mind indicate the close relationship of urology to neurology and psychiatry. That urologic problems play a large role in general practice is obvious. This book will help to teach its reader how to handle the common diseases, and indicate when the need for special instrumentation makes consultation advisable.

The anatomical descriptions are clear and concise, the illustrations are excellent. The detailed description of diagnostic procedures and the classification of disease according to broad pathological lines, as well as the constant reminder that diseases of one part may affect other parts of the tract, are outstanding features. Its 1,100 pages are chuck-full of information, condensed enough to avoid excessive length but never so brief as to be forced to omit essential details.

C. K. W.

**Medical Clinics of North America.** Issued serially, one number every month. Volume 18, Number 3. New York Number—November 1934. Octavo of 301 pages with 17 illustrations. Per clinic year July 1934 to May 1935. Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London. W. B. Saunders Company, 1934.

With the November 1934 issue of the Medical Clinics of North America, the W. B. Saunders Company instituted the program of presenting material intended primarily for the general practitioner and of including a symposium on some im-

portant medical subject. The first symposium deals with the lymphadenopathies—a subject of general interest and an extremely practical presentation.

The material in the Clinics has always been of a practical nature. Other publications contain statistical reports, laboratory studies, and investigations in the fundamental sciences, but the Clinics have dealt with the problem of handling the sick patient. What an opportunity one has in reading the Clinics to learn how some authority handles the cases in his particular field! It seems dubious that the publishers will be able to make the Clinics any more practical than they have been, but statements from Saunders are always borne out by facts. If the Clinics are changed, they can only remain what they are now—the most practical publication of its kind in the English language.

C. K. W.

## Truth About Medicines

### PROPAGANDA FOR REFORM

More Nostrums in Retrospect.—The chief work of the Bureau of Investigation lies in answering the thousands of letters that are received every year from physicians and laymen asking for information on "patent medicines" and quacks. The following "patent medicines" concerning which longer articles have been published previously, are among those about which the Bureau receives a large number of inquiries: *Absorbine, Jr.* which, according to the analysis made in the A. M. A. Chemical Laboratory was a clear, bright green liquid having a strong, penetrating, mint-like odor and seemed to be an acetone extract of some plant, probably wormwood, with the possible addition of some oil of sassafras and oil of menthol. *Alka-Seltzer* which was reported to be essentially aspirin together with salicylic acid, citric acid and baking soda. *Bromo-Seltzer*, an average dose of which—a teaspoonful, weighing about 76 grains—was reported to contain potassium bromide, 7 grains, acetanilid, 3 grains, and caffeine, 0.8 grain. The *Converse Treatment for Epilepsy* was reported to be one of the bromide mixtures and a person taking the stuff in accordance with the directions would get an amount of bromide equal to 58 grains of potassium bromide daily. *The Hayes Asthma Treatment*, consisting mainly in the administration of iodides, together with a cough remedy, some iron and quinine, with, of course, the inevitable laxative. *Hunter's Epilepsy Treatment*, according to the analysis made



by the Chemical Laboratory of the American Medical Association, was about one-fourth phenobarbital (luminal) and three-fourths milk sugar! *Dexo*, another alleged remedy for epilepsy, was reported to be a bromide mixture. *Lane's Asthma Treatment*, each dose of which was reported to contain approximately  $2\frac{1}{2}$  grains of calcium iodide, giving a daily dosage equivalent to 11.3 grains of potassium iodide. *Tums*, reported to be apparently nothing more marvelous than sugar and chalk flavored with peppermint. (J. A. M. A., June 8, 1935, p. 2114.)

Annual Meeting of the Council on Pharmacy and Chemistry.—The following were among the subjects considered at the annual meeting of the Council on Pharmacy and Chemistry of the American Medical Association: The Council voted not to accept combined concentrates of vitamins A, B and D or other complex mixtures containing vitamins until there is adequate evidence of the value of giving these vitamins in combination. The Council voted that manufacturers be informed that there does not appear to be necessity for use of hydroquinone for the proper preservation of cod and halibut liver oil and that until more convincing evidence in favor of the practice is submitted, it may not be permitted. The Council postponed consideration of the hearing of the question of the qualitative and quantitative relation of antirachitic effect of fish liver oils of different species. The Council reaffirmed its decision not to countenance the advertising to the public of halibut liver oil, halibut liver oil with viosterol and viosterol in oil, because the high potency of these preparations renders them unsuitable for lay use without medical supervision. The Council voted that the permissible claims for vitamin A remain in statu quo, namely, as given in the statement in Hospital Practice for Interns, page 78, under "Oleum Morrhuæ": "By virtue of its vitamin A content it promotes growth and, as indicated by experimental studies, may be an aid toward the establishment of resistance of the body to infection in general, though it has not been shown to be specific in the prevention of colds, influenza and other such infections." The Council postponed final action on liver preparations in order to consider the mat-

ter of various suggestions made for revision of the new proposed standards. The Council voted that the pharmaceutical house which is marketing an antipneumococcus serum with the claim that the product contains certain "heterophile units" and "neutralizing agents" representing advantages over ordinary products of this class, be invited to present the available evidence in order that the Council may consider it and report to the profession on the status of such a product. The Council decided that the question of the likelihood of contamination and loss of potency of scarlet fever preparations sold in bulk, should be left to the Scarlet Fever Committee, Inc., and the manufacturers concerned. The Council authorized preparation of an article dealing with the status of commercial glandular products. The Council discussed the status of bacillus acidophilus preparations and agreed that a period of approximately five years will be needed for definite study of the worth of the milk preparations with special attention to dosage. The Council directed that the name "Pituitary Solution (Obstetrical)" be not recognized, but stated that it will not object to the use of the phrase "for obstetrical use" underneath the name or elsewhere on the ampule label. The Council decided not to grant commercial firms the privilege of using Council reports in the promotion of their accepted products. It was agreed that the Council should undertake a limited examination of samples of catgut on the market. The Council discussed the difficulty in determining the exact clinical status of aminophyllin. It was decided that a progress report on dinitrophenol is necessary and the referee was asked to submit such a report with view to its publication. The Council directed that a general decision on vague health claims be prepared for publication. (J. A. M. A., June 1, 1935, p. 1998.)

Scott's Emulsion of Cod Liver Oil Omitted from N. N. R. and Scott's Cod Liver Oil Concentrate Tablets Unacceptable for N. N. R.—Scott's Emulsion of Cod Liver Oil (formerly marketed under the noninformative name "Scott's Emulsion") was accepted by the Council on Pharmacy and Chemistry in 1932. As a condition of acceptance, Scott & Bowne adopted the more

informative name, eliminated the therapeutically worthless calcium and sodium hypophosphites from the formula, and eliminated therapeutic claims for these constituents from the advertising. In 1933 the firm informed the Council that the absence of the hypophosphites caused the emulsion to be less stable. The firm was granted permission to replace the hypophosphites on condition that no therapeutic claims were made on the basis of their presence. Meanwhile Scott & Bowne presented its Cod Liver Oil Concentrate Tablets for the Council's consideration. This product was found acceptable provided the trade packages were revised and provided evidence should be presented to support the claim that the tablets are "protected against deterioration." Recently the firm informed the Council that the Department of Agriculture had ruled the name "Scott's Emulsion of Cod Liver Oil" not permissible, since the product has not the composition of the official emulsion of cod liver oil, and that it felt obliged to return to the old name, "Scott's Emulsion," retaining the *present* composition. Although informed that a name such as "Scott's Emulsion of 30% Cod Liver Oil" would be equally acceptable to the department, the firm would make no other change. The firm informed the Council that its Cod Liver Oil Concentrate Tablets were to be advertised in connection with the emulsion and has taken no steps to make the product otherwise acceptable. The Council was therefore obliged to omit Scott's Emulsion of Cod Liver Oil from New and Nonofficial Remedies and to declare Scott's Cod Liver Oil Concentrate Tablets unacceptable for New and Nonofficial Remedies. (J. A. M. A., June 22, 1935, p. 2257. )

*Ultrazol*.—This alleged hair grower is put out by a concern known as the Post Institute, New York City. It is said to contain "soothing oil, lemon juice, eggs, pituitary gland extract, sulphur." Elsewhere Ultrazol is described as "a compound involving the presence of vitellin, nuc'lein, cerebrin, lecithin and cholesterin." In its advertising the company has claimed that men and women, after using Ultrazol, have reported enthusiastically that "fuzz at the temples grows to long, mature hair," that "abnormal hair falling stops," and that the

"scalp feels clean, fresh, free from dandruff." These statements are featured, and then follows the statement that "we do not claim that Ultrazol does any of these wonders"! According to the National Better Business Bureau the alleged ingredient of Ultrazol on which the Post concern placed most emphasis was pituitary gland extract. That organization inquired whether there was any evidence to indicate that rubbing pituitary gland extract on a bald head would raise hair. The A. M. A. Bureau of Investigation replied that the claim was about as fantastic a piece of hokum as had been seen for a long time. A letter written by one Louis J. Stern of the Post Institute stated that the "value of the pituitary extract [in Ultrazol] does not depend upon its being absorbed *through* the scalp, but rather in penetrating along the hair shafts to the hair glands", and that in "view of the fact that some extracts of the pituitary are capable of causing powerful uterine contractions in a dilution of one in one hundred billion, it is quite reasonable to suppose that when a powerful chemical such as this is applied locally, it would also have some value." There seems to be no limit to the fantastic lengths to which certain exploiters of cosmetic preparations will go in selling their nostrums. So far as the federal government is concerned, the sale of cosmetics today is as free from regulation as the "patent medicine" business was prior to 1907. (J. A. M. A., June 29, 1935, p. 2383.)

#### ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following apparatus has been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

Victor Electrosurgical Machine.—This device is recommended for electrosurgery only. The frequencies are well above neuromuscular response. The efficiency varies from 8 to 30 per cent, depending on the conditions. The high frequency power generated varies from 46 to 177 watts for the "scalpel" connection and from 15 to 90 watts for "coagulation." General Electric X-Ray Corporation, Chicago. (J. A. M. A., June 15, 1935, p. 2186.)



## Miscellany

### DO YOU KNOW?

(A release of the Medical Society of the State of New York)

Children hot and thirsty in the summer demand cool and refreshing drinks. Nothing is better for them than milk which is kept on ice. Lemonade is probably next in value. Ice cream is good, too—moderately.

Mental cases occupy more beds in hospitals in the United States than all other ailments combined.

Quick action is necessary in appendicitis cases. Statistics recently compiled on Philadelphia hospitals show that among those admitted within twenty-four hours after onset of symptoms, one in forty-six died; among those admitted forty-eight to seventy-two hours, one in fourteen died; and among those whose admission was further delayed, one in ten died.

Cancer seems to be on the increase when total deaths from this cause are compared with earlier years, but it is thought that much of the increase is due to improved diagnosis. In New York City, "visible" cancers show little increase; the bulk of the additional cases being found are those not apparent to the eye, located in inaccessible places, which may now be discovered by improved diagnostic methods. Another factor, of course, is that with the increase in the average span of human life, more people get to be old enough to join the age group within which cancer usually finds its victims.

Snakes are slow in movement, despite appearances of speed, according to Dr. Walter Mosauer of the University of California. He tested snakes common in California. The highest speed attained was only 3.6 miles per hour by the red racer, who only kept up this rate for short intervals, and under duress. A man can walk at a speed greater than this, and keep it up for long distances.

More babies are born in families on relief than among the general population, recent statistics show.

Sun stroke causes few deaths, but much suffering. Afflicted persons should be taken immediately into the shade, put to bed in a cool room, clothing loosened. It is well to obtain medical advice as it may be necessary to administer drugs for a failing heart or lowered circulation.

Babies suffer from extreme heat. Light clothing is recommended. Sponge baths with cool water, and plenty of water to drink, are preventives of the effects of heat. Fresh, cool air is important, and the baby should be kept in the open air as much as possible.

Most people believe that there is a "cure" for everything. They make the wish father to the thought. "Master minds" of science, toiling through midnight hours in a feverish search for "discoveries" is the romantic picture, false to reality, which leads the multitude to expect too much from research. Strangely enough, many of the most useful advances in science have come while the investigators were looking for something else. Much remains to be learned about our natural environment, and we have not begun to penetrate the mystery of life itself. Nobody knows how to put his finger on the precise point where the inanimate becomes animate, and how.

Ancient Egyptians planned their own funerals, conferred with undertakers, arranged for the mummy mask to be a good likeness, and decided upon the inscription for the coffin. These items were considered essential for the soul's happiness after death.

Quacks there have been in all ages. In New York state during the seventeenth and eighteenth centuries the practice of medicine was wholly unregulated. In 1760 Dr. Middletown said: "So amazingly easy of belief are some people in these miracle-mongers that, as if there were something creative in the name of Doctor, seldom any other test of their skill is required than their assuming that title: so that this appellation with a competent presence of mind and a string of ready-coined cures, carefully propagated by such as find their account in carrying on the cheat, have seldom failed of procuring traffic in New York."

Lower death rates among wage-earners have marked the successive years of the depression. Many will argue this to be evidence that work is a curse.

The first bathtub in the United States was installed in a Cincinnati home in 1842. It was made of mahogany and lined with sheet lead. Newspapers denounced it as an undemocratic vanity. Boston, in 1845, made bathing unlawful except when prescribed by a physician. Virginia "soaked the rich" by taxing bathtubs \$30 per year.

## Important to Your Babies!



Larsen "Freshlike" Strained Vegetables are first quality garden fresh vegetables cooked, strained and sealed under vacuum to protect vitamins and mineral salts. For further protection we seal in special enamel lined cans.

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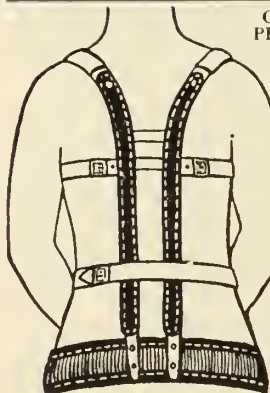
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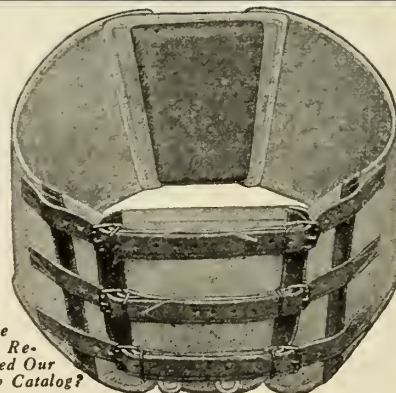
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## RENAL CALCULI\*

By  
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New Orleans

The term "kidney stone" is inadequate and misleading for there is no one type of stone. Stones differ greatly, one from another, and the different types most surely require different conditions and mechanisms for their production. As a whole, the physical and chemical processes remain unknown, though in certain types, such as the cystin and phosphatic stone, we have more exact knowledge as to the conditions under which they are produced. Congenital abnormalities, stasis in the kidney pelvis, infection of the kidneys, and foci of infection elsewhere in the body are stressed as causative factors by various authorities in a most variable way. Whether such factors are true primary determinants, or only accessory reasons, remains a matter for debate. Metabolic disturbances are receiving considerable attention at the present time.

Once a stone is formed, if the urinary tract is everywhere quite normal, it may pass out of the body without interruption; perhaps over 90% of them do. On the other hand, if there are abnormal sacs or pockets, if the neck of a calyx is unusually narrow, or if the ureter enters the pelvis above its most dependent portion, the stone may be retained in the kidney and reach a size too large to escape. It is this type of stone that holds our particular interest and to which this discussion is especially directed.

Modern diagnostic methods leave little to be desired and it is now most rare for a careful investigator to overlook a stone if one is present; but in the particular case it

is often a difficult problem to decide as to the best plan of action, and the question of recurrence of the stone (most important from the patient's viewpoint) is far from solved.

The exact role played by infection outside the urinary tract cannot be definitely stated. Teeth, tonsils and sinuses should be carefully checked and if trouble is found it should be removed. Dead teeth that are negative to the x-ray are often considered harmless, but statistics show that over 60% of these have infection at the roots and it is generally believed that they should all come out. Unless the urinary tract demands immediate attention, it is perhaps better to clean up all foci before the kidney is operated on. The general condition of the patient will certainly be improved and the infection may well play a part in creating a condition favorable to re-formation of stone.

Infection in the urinary tract presents quite a different problem and its relation to recurrence<sup>1</sup> of certain types of stone is no longer a debatable question. The organisms are divided into two groups: *First*, those associated with an acid urine, largely the colon bacillus group; and *Second*, those that split urea with the production of an alkaline urine. Thompson's bacillus and *Bacillus proteus-vulgaris* are the chief offenders in this group—more rarely, certain strains of colon bacilli and cocci. Stones associated with the first group may be treated in the same manner as stones without infection, except that the urinary tract should be cleared of this infection after the stone is removed. This clearing up of kidney infections after removal of the stone

\*Presented to the Association in annual session, Mobile, April 17, 1935.

1. Randall, A.: Prevention of Recurrence of Urinary Calculi, Am. J. Surg. 18: 482-493, Dec. '32.

calls into use all the methods of the modern urologist—drugs, diet, renal lavage, etc.

Because of the importance of properly identifying the type of infection present in stone cases, a detailed examination of the urine constitutes one of the most important parts of the genito-urinary study. In addition to the ordinary routine, the sediment from a centrifugalized specimen is placed upon two slides, one stained with methylene blue and the other with Gram's stain. Routine cultures are then made, but often when more than one type of infection is present the urea-splitters are overgrown by other organisms and an incorrect report is obtained. To solve this difficulty, an ingenious method was recently developed by my Chief, Dr. Joseph Hume. The principle of this method is a urea broth mixture to which an indicator has been added; if urea-splitting organisms are present, the culture media will be pink within twenty-four hours. This can be carried out in any office with the aid of a small inexpensive incubator.

The importance of determining the type of infection present cannot be emphasized too much as recurrences in the presence of urea-splitting organisms take place in a remarkably short period of time. One must also remember the opposite kidney; even though it does not contain a stone, it may also be infected and may play an important role in the patient's postoperative period. It is to be remembered also that infection in the stone kidney cannot be cleared up until after the stone is removed.

The x-ray, first used by McIntyre in 1896 to show stones in the urinary tract, is today our most important diagnostic method. It constitutes a part of the preliminary study, is used in all cases of suspected stone, and should be used in all cases of pyuria; in fact no urologic study is complete without x-rays of the kidneys, ureters and bladder.

Added information is now obtained by cystoscopy; differential kidney function tests are done with either phenolsulphonphthalein or indigo carmine. This determines the comparative value of the two kidneys and enables one to judge whether or not the side containing the stone has been damaged to the extent that the kidney should be removed; also to measure the ability of the good kidney to carry on the entire function.

It is to be remembered, however, that a kidney recently blocked by a stone may give a poor return of the dye today and yet have its function completely restored with one or two weeks' drainage by an indwelling ureteral catheter. On the other hand, if the damage is of long standing and the opposite kidney has undergone hypertrophy to take over the entire body function, it is reluctant to give it up, even after its fellow has been relieved of the stone. Specimens of urine are collected from each kidney and subjected to the same type of study as that described for the mixed urine. More information may also be obtained at this point by two-position bilateral pyelograms, but this procedure should always be preceded by a plain plate as stones do not always produce a filling defect and may be entirely obscured by the pyelographic medium.

The type of operative treatment to be instituted in a particular type of stone case is determined by the information derived from the preliminary study and the condition found to exist on the operating table after the kidney has been delivered. At this point I wish to emphasize the importance of the proper position of the patient on the table. The object is to widen the interval between the crest of the ilium and the last rib, and, if necessary, the 12th and even the 11th rib may be resected. In operating on patients with only one kidney, it is especially necessary to have a wide exposure and the kidney well delivered. Stones confined entirely to the pelvis can usually be removed through a pelvic incision, but if the stone is partly pelvic and partly renal it is almost certain that the edges of the incision will be torn and fragments of the stone will be broken off and left behind. For all stones not removable through the pelvis combined cortical and pelvic incisions may be used, or a cortical incision alone. Only one calyx may be opened or the size of the stone may necessitate a more extensive wound. Bleeding during the procedure is sometimes quite profuse and may be controlled by compression of the pedicle between the fingers of an assistant, or with a rubber covered intestinal clamp. This should not be kept up for more than eight minutes without being released to allow the blood again to flow through the kidney. After the stone is removed the larger ves-



sels may be ligated and oozing from the smaller ones controlled by suture. Mattress sutures are widely used but strangulate tissue within their grasp and destroy a certain amount of kidney function. Single sutures tied over pieces of fat or muscle do much less damage and usually suffice to control bleeding. The pelvic incision is closed with continuous plain catgut. The object is to prevent leakage into the wound and reduce infection. The complications following operations through the renal cortex are (1) primary hemorrhage, (2) cortical infections which may necessitate subsequent nephrectomy, (3) secondary hemorrhage, and (4) poor function as a result of destruction of too much kidney tissue. I wish to point out here that severe wound infections often follow the removal of infected stones. Packing off with radiated petroleum gauze, combined with careful technique, helps to reduce these instances. In a case where the diagnosis is wound infection versus cortical infection of the kidney, the wound should be opened first and carefully irrigated with permanganate and silver. I have seen this procedure remove the necessity of exploring the kidney on more than one occasion.

Cortical drainage of the pelvis through the lower major calyx should probably be employed much more often than it is. It serves a two-fold purpose: *First*, it provides an opening through which small fragments may be removed with an intrarenal stone catcher; and, *Second*, it is a convenient means of irrigating the kidney to combat infection.

Infection with urea-splitting organisms should be given additional consideration at this point. Joly<sup>2</sup> discourages extensive cortical operations in the presence of this type of infection preferring to do a nephrectomy, providing the opposite kidney has a good function, is not infected, and contains no stones. The postoperative reactions are severe, and he believes that uphill drainage of the good kidney as a result of a patient lying on that side predisposes to infection and stone formation. It has recently been our custom in this type of infection to leave in a nephrostomy tube in all cases. Through this a continuous drip of 1% phosphoric

acid, or  $\frac{1}{2}$  to 1% acetic acid, may be given from an infusion bottle by a special two-way tube arrangement. This was first described by Randall<sup>1</sup> of Philadelphia in 1933 and elaborated upon by Dr. Hume in 1934. The purpose of this type of irrigation is to provide an acid medium which is unfavorable to the growth of alkaline-producing organisms. Ammonium chloride in doses of 60 to 80 grains daily is given by mouth in an effort to acidify the urine. After the patient is able to take food, the ketogenic diet, as described by Helmholtz<sup>3</sup> and Clark<sup>4</sup> may be of value. One may also run down the list of urinary antiseptics and get an occasional good result from some of them.

For the purpose of emphasizing some of the points mentioned and of showing the value of special instruments, I wish to present very briefly the records of three cases.

#### CASE REPORTS

*Case No. 1:* Male, white, age 42. Examination showed two stones in the right kidney and a stone blocking the left ureter. Both kidneys were infected with colon bacilli. The stone was removed from the left ureter in May 1932 and one month later two stones were removed from the right kidney through a pelvic incision. The teeth were gone over by a dentist prior to the operation and reported good but were not x-rayed. The patient's post-operative period was smooth and the infection in the left kidney cleared up rapidly, but all efforts failed to improve the condition of the right. Four months later there was a recurrence on this side. No foci of infection could be found, and the teeth were again checked, this time with x-rays; twelve were reported to show abscesses and were removed. The right kidney was operated on again in December 1932 and the stones removed through a cortical incision. The patient had a sterile urine when he was discharged from the hospital. Follow-up x-rays in July 1934 were negative for stone. The question here is whether the abscessed teeth played a part in the recurrence of stone.

*Case No. 2:* This record is presented for the purpose of showing an interesting type of stone growth, and of demonstrating the value of special forceps in this type of case. Patient is a male, white, age 43; first seen in March 1929 with a stone in the left renal pelvis without infection. Repeat x-rays eight months later showed definite growth of the stone. A slight infection was found at this time. Operation was advised but refused. The patient was not seen again until February 1935 at

3. Helmholtz, H. F.: Ketogenic Diet in Treatment of Urinary Infections of Childhood, J. A. M. A. 99: 1305-1308 (Oct. 15) 1932.

4. Clark, A. L., and Keltz, B. F.: Simplified Treatment of Bacilluria, J. A. M. A. 104: 289-291 (Jan. 26) 1934.

2. Joly, J. Swift: Textbook on Stones. St. Louis. C. V. Mosby and Co.

which time the left kidney had been blocked for a week and there was a heavy bilateral infection. X-rays showed many stones filling the left kidney. The right side was negative. The function of the left kidney was markedly impaired but returned to 75% of normal with two weeks' drainage by indwelling ureteral catheter. He was then operated on and 200 stones removed through the pelvis of the kidney. A nephrostomy tube was inserted through the lower major calyx. Postoperative x-rays were negative for stone.

*Case No. 3:* Male, white, age 29. Examination showed stones in both kidneys with bilateral infection and urea-splitting organisms. Function from both kidneys was normal. The stone was removed from the left kidney in June 1934 by cortical incision over the lower calyx, and a nephrostomy tube inserted. This was allowed to remain for two and a half months during which time the kidney was irrigated and several fragments of stone removed with an intrarenal stone catcher. At the end of this time the x-rays were negative for stone on the left side, and the urine from the left renal pelvis was negative for infection, both to culture and plain stain. The right kidney was operated on in December 1934. An extensive cortical incision, involving two-thirds the length of the kidney, was made and the renal pelvis drained by a nephrostomy tube through the lower major calyx. During the convalescence the left side became re-infected and five weeks later showed a re-formation of stone. Small fragments also recurred on the right side but were removed without operation. X-rays on March 2nd, 1935 were negative for stone in the right kidney. Pyelograms on this side showed a moderately dilated pelvis and calices and intravenous indigo carmine showed an appearance time of 3½ minutes with moderately good concentration.

### CONCLUSION

Recurrent stone formation in the urinary tract continues one of our major problems. A thorough preoperative study combined with careful operative and postoperative treatment should reduce the percentage of such cases.

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Diabetes—We think that the success which attends the treatment of any diabetic depends not upon a specific regimen so much as upon fulfilling certain physiologic requirements; that with the aid of any system of diets satisfactorily graded, it is no longer strictly necessary for either the physician or the patient to have more than a working knowledge of dietetics; that the more elaborate laboratory aids, although often desired and occasionally necessary, may be dispensed with in good management of the average diabetic patient; and that even when severe, non-surgical complications arise in the course of diabetes, rational care may be given in the home.—*McPeak and Schwartzburg, Texas State J. Med., August '35.*

## OVULATION, MENSTRUATION AND FINDING THE "SAFE PERIOD"\*

By  
GILBERT F. DOUGLAS, M. D., F. A. C. S.  
Birmingham, Ala.

A consideration of ovulation, menstruation and finding the "safe period" brings one in contact with the most vital phases of human existence. In all this material world, with its complexity of products, there are but two forms of material things; namely, living matter, or protoplasm, and lifeless or dead matter. Protoplasm is not life. We do not know what life is, but whatever it is we know it is not material substance. We cannot see, feel, taste, touch, or weigh life, but we can do all these things with protoplasm. Spencer<sup>1</sup> defines life as the "continuous adjustment of internal relations to external relations"—an acceptable concept.

With this definition of life we go to one of the absolute essentials of the beginning of life, the ovum. There is a possibility that more than one ovum may be discharged within one menstrual cycle, not concomitantly as must arise in some twin pregnancies, but separated by an interval of several days or longer.<sup>2</sup> This is rare but must be kept in mind. Until fairly recently the time of ovulation in the menstrual cycle had been computed from studies of recent corpora lutea, the remnants of mature graafian follicles after the ova have been extruded.

Newell, Allen, Pratt and Bland<sup>3</sup> started out to obtain the ovum by washing the tubes and the uterine cavity with a saline solution, the washings being caught in watch glasses and carefully searched for ova. In a study of 90 patients who were operated on, nine specimens were recovered from the fallopian tubes, five of which were identified, after sectioning, as tubal ova. Of the

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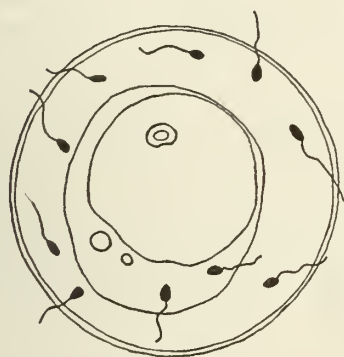
\*Presented to the Association in annual session, Mobile, April 17, 1935.

1. Spencer: Manual of Histology and Organography.

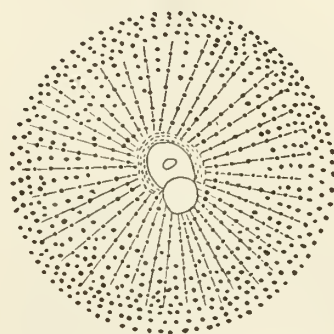
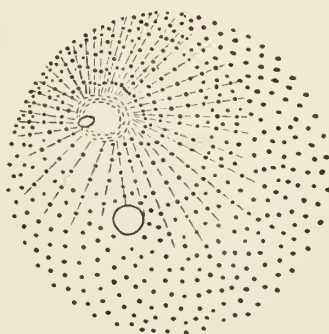
2. Novak, E.: Menstruation and Ovulation, J. A. M. A. 102: 1322 (Apr. 21) 1934.

3. Newell, Q. U.; Allen, E.; Pratt, J. P.; and Bland, L. J.: Time of Ovulation in the Menstrual Cycle as Checked by the Recovery of Ova from the Fallopian Tubes, Am. J. Obst. & Gynec. 19: 180-185 (Feb.) 1934.





ENTRY OF SPERMATOZOID  
INTO OVUM



FUSION OF SPERMATOZOID AND OVUM

Fig. 1

five specimens identified as tubal ova, the first was recovered on the 15th day of the menstrual cycle (after onset of the previous menses). The second and the third were twins recovered on the 15th day of the menstrual cycle. The 4th ovum was recovered on the 16th day of the menstrual cycle. The 5th ovum was recovered on the 14th day of the menstrual cycle. Of the specimens which were not identified with certainty as ova, one was recovered on the 15th day and two on the 16th day of the menstrual cycle. A recent corpus luteum was found in each case.

Their conclusions were that ovulation takes place one or two days before the 14th (morning of the 15th) day following the onset of the previous menses.

The time of ovulation<sup>4</sup> in the human being has been studied by five different methods:

- (1) The microscopic observation of the ovary in situ.
- (2) The microscopic examination of removed ovaries and uterine curettings.
- (3) The determination of the age of early embryos, taken together with the probable time of conception.
- (4) The recovery of human ova from the uterine tubes.
- (5) The reversal in the reaction of the uterine muscle to pituitrin.

It has been definitely demonstrated by the recovery of ova from the uterine tubes that in regular cycles of average length ovulation usually occurs during the intermenstrum.<sup>4</sup>

Two clinical signs of ovulation in the human being have been recognized by gynecologists; namely, the intermenstrual pain or "Mittel-schmerz," and intermenstrual spotting—the former due probably to great distention of the follicle just preceding rupture. It may be perfectly regular, occurring on one side one month and on the opposite side the next. Or only one side may be involved, distention of the ovary on the opposite side causing no pain. Intermenstrual spotting occurs quite infrequently. It may last from one hour to 48 hours and

the bleeding may be very slight or moderate.

As a third indication of the time of ovulation, Kurzrok<sup>4</sup> adds the sudden appearance of the follicle stimulating hormone (prolan A) in the urine of normal nonpregnant women. The appearance of a positive prolan A reaction in the urine in these patients at about the middle of the intermenstrual intervals immediately suggests that this excretion is closely related to the phenomenon of ovulation. It has been definitely demonstrated that the stimulus for ovulation proceeds from the anterior pituitary gland, the site of elaboration of prolan A. The time relationship between the sudden excretion of prolan A and actual ovulation is of great interest. Kurzrok assumes that ovulation follows the prolan A excretion in 24 hours.

The intervals between the appearance of a positive prolan A and a positive Aschheim-Zondek test were 13 and 10 days respectively. The appearance of a positive Aschheim-Zondek test denotes nidation of the ovum. The question is asked, Are the follicle stimulating hormone (prolan A) and the luteinizing hormone (prolan B) identical or two different substances?

Kurzrok's conclusions, after a study of 10 young women for their daily prolan A (follicle stimulating hormone) excretion over an extended period, were:

(1) That sudden excretion of this hormone occurred at about the middle of the menstrual cycle, and had a definite tendency to recur at about the same time in the following cycle.

(2) This sudden secretion of prolan A from the anterior pituitary is considered to be the stimulus to the ovaries to induce ovulation.

(3) He gives evidence in support of the view that ovulation follows the prolan A excretion in about 24 hours. It is believed that ovulation cannot occur without this stimulus of prolan A. The presence of this substance is not, however, *prima facie* evidence that ovulation has occurred.

(4) The greatest incidence of prolan A excretion was between the 10th and 13th days; the greatest incidence of ovulation was between the 11th and the 14th days.

4. Kurzrok, R.; Kirkman, I. J.; and Creelman, M.: Studies Relating to the Time of Human Ovulation. *Am. J. Obst. & Gynec.* 28: 319-333 (Sept.) 1934.



(5) Suggestive time relationship between menstruation, ovulation, fertilization, migration of the fertilized ovum, and nidation are considered.

(6) The sudden conversion from a positive Aschheim-Zondek test to a positive prolan A reaction at the end of pregnancy is suggestive of a multiplicity of the gonadotropic hormones from the anterior pituitary gland.

Allen<sup>5</sup> et al undertook a study with the following objectives:

(1) The recovery of ova from the uterine tubes.

(2) The correlation of their condition with the menstrual history and the stage of development of the early corpora lutea (recently ruptured follicles) from which these ova had been extruded.

(3) A continuance of quantitative analyses of the amount of ovarian hormone in tissues of the human ovary.

All of the recent investigators<sup>6</sup> in the field of conception and sterility are pretty well agreed as to the length of the life of the unfertilized ovum (24 to 48 hours) and the maximum time the sperm is capable of fecundation after its deposit in the female genital tract (48 to 72 hours). Knaus<sup>7</sup> has repeatedly stated that "irrespective of the length of cycle, ovulation always takes place about 14 days before the oncoming menstruation." Ogino<sup>8</sup> says, "The peak of ovulation determines the following menstrual period and has no connection with the preceding one." He also states that ovulation always occurs between the 12th and 16th days preceding the next menstruation. Knaus<sup>7</sup> has shown by extensive study that the unmated egg cell retains germinating ability only for about 24 hours after it leaves the ovary.

Some facts deduced are as follows:<sup>9</sup>

5. Allen, E.; Pratt, J. P.; Newell, Q. U.; and Bland, L. J.: Recovery of Human Ova from Uterine Tubes; Time of Ovulation in Menstrual Cycle, *J. A. M. A.* 91: 1018-1020 (Oct. 6) 1928.

6. Anderson, C. W.: Teaching Patient to Observe Symptoms of Ovulation, *Colorado Med.* 31: 344-348 (Oct.) 1934.

7. Knaus, H.: *Arch. f. Gynak.* 146: 343-347, 1931; 151: 302-309, 1932.

*Zentralbl. f. Gynak.* 53: 2193-2203 (Aug.) 1931.

8. Ogino, K.: *Conception Period of Women*, Harrisburg, Medical Arts Publishing Co., 1934.

(1) The process of ovulation normally goes on in a regular cyclic or rhythmic succession.

(2) Ovulation always occurs 12 to 16 days preceding the next menstruation.

(3) In most mammals it is spontaneous, maturation and spontaneous rupture of follicles occur whether or not there has been copulation.

(4) Sexual intercourse may hasten ovulation. In the rabbit, cat, and ferret, copulation must occur.

(5) The unmated egg cell retains germinating ability only for about 24 hours after it leaves the ovary.

(6) The sperms lose their power to fertilize the ovum after two or three days in the female genital tract.

(7) The motility of the sperm is no indication of its power to fecundate.

Normally in women the follicle stimulating and the luteinizing hormones come into play, ovulation occurs, the anterior lobe is stimulated, and bleeding occurs from a "pregnoid" or "prepared" endometrium of the Hitschmann and Adler<sup>10</sup> type. Gynecology as a specialty<sup>11</sup> convinces us that it is a great deal more than gynecologic surgery, as it embraces knowledge of the special anatomy, physiology, and pathology of the female reproductive organs. During pregnancy when ovulation is normally in abeyance, the anterior pituitary undergoes hypertrophy, and, similarly, hypertrophy of this gland occurs in gonadectomized animals, as has been shown by Engle.<sup>12</sup>

Knaus<sup>7</sup> has contributed what is apparently the only test method for ovulation in the human being, through a study of sensitivity of the uterine musculature to the action of posterior pituitary extract under the influence of the follicle and corpus hor-

9. Anderson, C. W.: Natural Avoidance of Conception, *Colorado Med.* 30: 223-227 (June) 1933.

10. Menstruation and Ovulation, Ed. J. A. M. A. 96: 948 (Mar. 21) 1931.

11. Novak, E.: Recent Advances in Physiology of Menstruation, Can Menstruation Occur Without Ovulation? Underlying Cause of Menstruation; Duality of Ovarian Secretions; Role of Anterior Pituitary in Sex Cycle, *J. A. M. A.* 94: 833-839 (Mar. 22) 1930.

12. Engle, E. T.: Effect of Daily Transplants of Anterior Lobe from Gonadectomized Rats on Immature Test Animals, *Am. J. Physiol.* 88: 101-106 (Feb.) 1929.

mones. There are ways of determining whether or not a sterile woman is ovulating. The most logical method is through study of the endometrium just before an expected flow, assuming that the periods recur regularly. If ovulation has occurred the endometrium will show the characteristic secretory changes evoked by the corpus luteum hormone (progesterone). If, on the other hand, there is a complete absence of secretory changes, it may be assumed that there is no corpus luteum, that ovulation has not occurred. Specimens from the endometrium may be obtained for examination by the use of a small curet or the suction method as suggested by Klingler and Burch.<sup>13</sup>

Until recently it was taught that all germ cells in the mammalian ovary were irrevocably formed during fetal life, and, therefore, grew to maturity at stated times during adult life. This static condition in the germ cell and germinal epithelium was not considered incompatible with what was recognized as regular rhythms in ovarian functional activities other than the productive germ cells. In other organs of the body also it was granted that the cells were constantly breaking down and being replaced by newly-forming ones, from which arose the popular idea that the body was renewed every seven years. It was generally conceded that Pflüger<sup>14</sup> was the first to describe the ingrowths of new cells from the germinal epithelium, the classical Pflüger's tubes, but he also believed that this new growth was periodic, recurring at each mating season. Arai<sup>15</sup> in 1920 attacked the problem when he counted the number of ova and follicles in the entire ovary of a number of rats at all ages and decided that oogenesis was a continuous process.

In a description by Allen<sup>16</sup> et al in 1930

in 35 ovaries they show that follicles less than 7 millimeters were present in four, follicles between 7 and 10 millimeters in 17, and 14 contained follicles larger than 10 millimeters, this size being considered an ovulation size.

Recent investigations by Swezy<sup>14</sup> show that the luteinizing hormone of the anterior pituitary has a depressing effect on the production of the new germ cells in the ovaries of rats when this is given under experimental conditions. The corpus luteum cannot act unaided, however, for it has been found that the uterus will respond to progesterone only if it has been under the previous influence of oestrin, the ovarian follicular hormone. In normal animals this is furnished by the ovaries; in experiments it must be given by injection, but however provided both hormones are necessary to obtain full expression of the endometrial cycle. When ovulation occurs it usually takes place between the 10th and 15th day after the last menstrual period and thus falls at least roughly into gear with the current cycle. The corpus luteum induces a typical premenstrual reaction of the endometrium, and when the corpus luteum retrogresses the superficial third of the endometrium sloughs and bleeds. The administration of oestrin causes reduction of weight of the ovary, as shown by Haberlandt<sup>17</sup> (1927). Burch and Cunningham<sup>18</sup> (1930) and Kraul<sup>19</sup> (1932) state that in their experience oestrin stimulated rather than depressed the ovaries. Hartman's<sup>20</sup> final conclusion is simply that the intermenstrual bleeding accompanies highly active ovarian secretion and is presumptive evidence of an active if not an ovulatory cycle.

Kurzrok<sup>21</sup> has reported a group of 100 women suffering from the vasomotor disturbances of the menopause, and found that only those without ovarian oestrogen-

13. Klingler, H. H., and Burch, J. C.: Effect of Extracts of Urine of Pregnant Women on Hyperplastic Endometrium, *Am. J. Obst. & Gynec.* 26: 17-21 (July) 1933.

14. Swezy, O.: Changing Concept of Ovarian Rhythms, *Quart. Rev. Biol.* 8: 423-433 (Dec.) 1933.

15. Arai, H.: Postnatal Development of Ovary (Albino Rat) With Especial Reference to the Number of Ova, *Am. J. Anat.* 27: 405 (Sept.) 1920.

16. Allen, E.; Pratt, J. P.; Newell, Q. U., and Bland, L. J.: Human Ova from Large Follicles; Including Search for Maturation Divisions and Observations on Atresia, *Am. J. Anat.* 46: 1-53 (July) 1930.

17. Haberlandt, L.: *Arch. f. d. ges. Physiol.* 216: 525-533, 1927.

18. Burch and Cunningham: *Proc. Soc. Exp. Biol. & Medicine* 27: 331, 1930.

19. Kraul, L.: *Arch. f. Gynak.* 148: 65-75, 1932.

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21. Kurzrok, R.: Follicular Hormone in Urine as Index of Therapy in Menopause, *Endocrinology* 16: 366-368 (July-Aug.) 1932.



nic hormone in the urine were benefited by ovarian medication. This consisted of 2 cc. of sistomensin containing 10 rat units of oestrogenic hormone, once a week. It is authoritatively claimed that during the 30 to 35 years of sexual life of the average woman only 360 to 420 follicles mature completely and rupture. The isolation of the follicular hormone in a crystalline form—a colorless white crystal—was accomplished by Allen and Doisy<sup>22</sup> in 1928, and a few months later it was also isolated by Butenandt<sup>23</sup> of Germany. This is a triple unsaturated oxyketone with the formula  $C_{18}H_{22}O_2$ . Theelol has the formula  $C_{18}H_{24}O_3$  and is about one-fifth as potent as that of  $C_{18}H_{22}O_2$ .

There are two ovarian hormones: the follicular stage (follicular hormone) and the luteal stage (progestin). The follicular hormone, elaborated primarily in the maturing graafian follicle, has been prepared by Doisy<sup>22</sup> et al in crystalline form. The corpus luteum hormone, studied chiefly by Corner, Hishaw and Evans,<sup>24</sup> has been prepared only in small quantities in the laboratory and has been proven responsible for the "progestation and proliferation" immediately preceding menstruation.

Ovulation takes place<sup>25</sup> almost exactly in the middle of the menstrual cycle, counting from the first appearance of the menstrual flow. Aschoff<sup>26</sup> has shown that the ovum leaves the follicle without a trace of hemorrhage and that the follicle grows and reaches its greatest development in about 14 days after ovulation. Occasional hemorrhage occurs within the ovary at the time of ovulation, producing shock simulating

that of a ruptured ectopic pregnancy, this usually coming about the middle of the intermenstrum, the 12th to 16th day before the next menstruation. It should be recognized that fatal hemorrhage does not occur. Ovulation with rupture of the graafian follicle marks the postmenstrual phase, occurring on the average within two weeks from the onset of the previous flow.

Dr. W. J. Mayo<sup>27</sup> reminds us that we should consider every surgical disease of the generative organs of women with their future nervous condition in mind, as well as the physical state which is desired. "Happiness is a state of mind, and a state of mind is not necessarily a state of body." Ovaries are often subjected to unnecessary "tinkering" even if they are not removed and the ovary does not stand such operations well. Conservation of the reproductive function is of first importance, but conservation of the ovary for the continuance of its internal secretion and its effect on the production of menstruation is second only to the reproductive function.

Kurzrok<sup>4</sup> has investigated the lytic action of semen on cervical mucus. He found that normal semen digests normal cervical mucus and suggests that either changes in the lytic action of the semen or in the character of the cervical mucus or both may produce sterility. Mucopurulent cervical secretion, for instance, Kurzrok has always found to be nondigestible by semen.

It has been accepted by most gynecologists<sup>25</sup> on the basis of correlated clinical and histologic studies that ovulation is an essential precursor of menstruation and a definite relation exists between the two processes. Ovulation is believed to occur usually at about the 14th or 16th day of the cycle. In the event of fertilization of the ovum, this phase passes on by an easy transition into genuine decidua, in which case menstruation, of course, does not occur.

Folliculin (in the form of progynon -B) alone<sup>28</sup> and the same folliculin followed by corporin in the form of proluton-B were given to five patients with amenorrhea, of at least a year's duration, in an attempt to

22. Allen, E., and Doisy, E. A.: Ovarian and Placental Hormones, *Physiol. Rev.* 7: 600-650 (Oct.) 1927.

23. Butenandt, A., and Stormer, I.: *Ztschr. f. physiol. Chem.* 208: 129-148, 1932.

24. Corner, G. W.: Nature of Menstrual Cycle, *Medicine* 12: 61-82 (Feb.) 1933.

25. Hartman, C. G.: Homology of Menstruation; New Observations of Intermenstrual Bleeding in Monkey, *J. A. M. A.* 92: 1992-1995 (June 15) 1929.

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26. Aschoff, Ludwig: Lectures on Pathology, New York, Paul B. Hoeber, Inc., 1924.

27. Mayo, W. J.: Conservation of Menstrual Function, *J. A. M. A.* 74: 1685 (June 19) 1920.

28. Rock, J.: Artificial Menstruation; Effect of Female Sex Hormones in Amenorrhea, *New England J. Med.* 210: 1303-1310 (June 21) 1934.

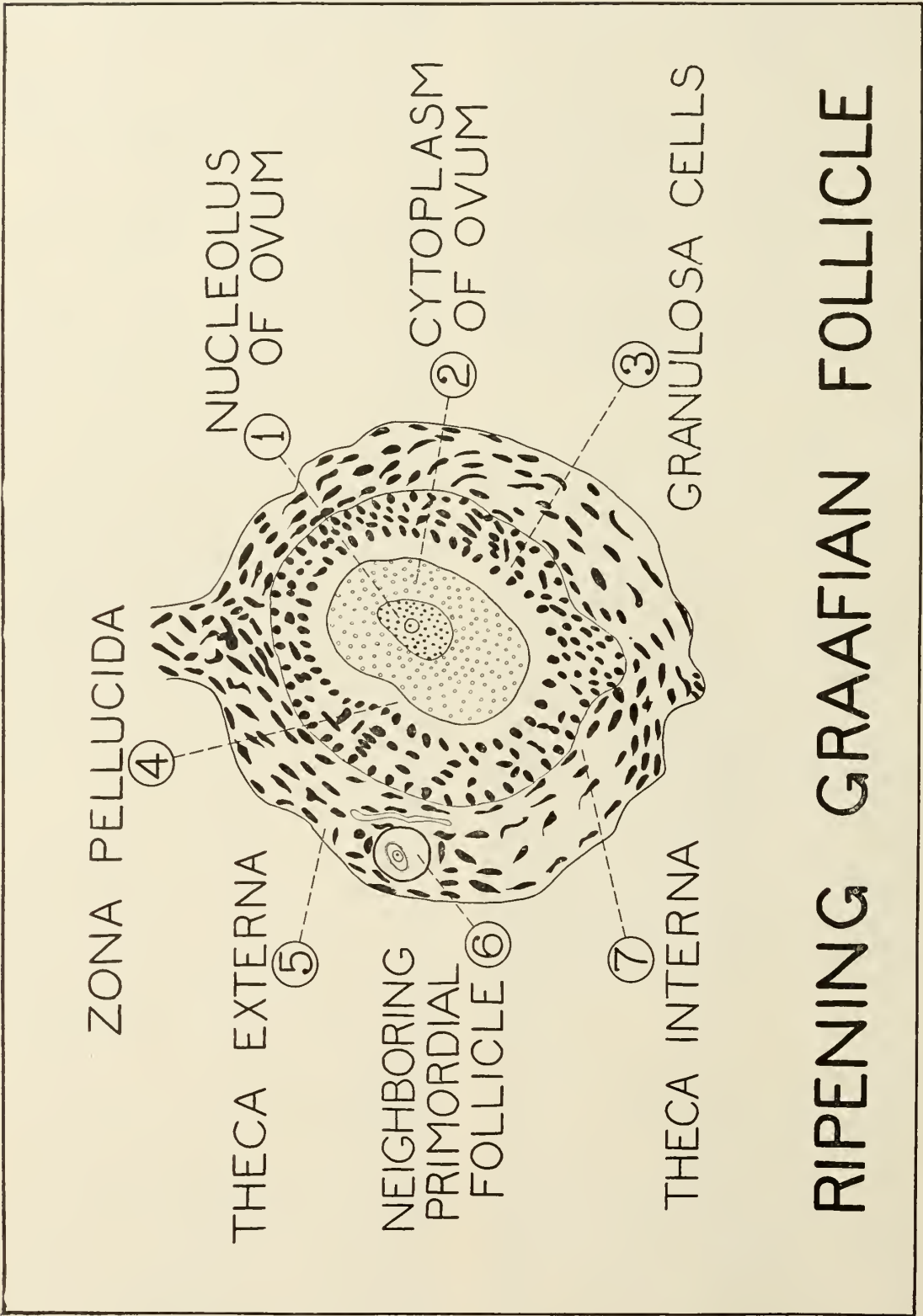


Fig. 2



study the normal influence of the follicular apparatus on the human endometrium. All medication was given deep in the gluteal muscles. Apparently normal menstruation promptly ensued in 4 cases and slight staining in the 5th. Corpus luteum is equally as important in the regulation and development of pregnancy. Menstruation, being an integral part of the cycle of conception, should be given a great deal more consideration than we are prone to give it at times. There are a few cases on record suggesting that menstruation takes place independently of ovulation, but the study of the corpus luteum regulates the time of onset of the succeeding menstruation.<sup>29</sup> Evidence is that there is a definite and almost constant relation between these two functions. The normal menstrual rhythm is a monthly cycle with very little variation in the time, duration and amount, as a rule. Alterations from the set cycle have been accepted as indicating a pathologic condition until proven otherwise.

The histological studies of Hitschmann and Adler<sup>10</sup> have shown that the uterine mucous membrane undergoes definite cyclic changes, and in more recent times Schroeder, Meyer<sup>30</sup> et al have correlated these uterine stages with corresponding cyclic processes in the ovary. Sanes<sup>31</sup> studied the problem of periodicity and states that 77% of women have regular periods. If there was an irregularity noticed it was of one or two days either way. He found the most common type was 28-day period with a duration of 3 days. Further study by Geist<sup>30</sup> shows that variation in duration of flow is probably less than the variation in the interval.

The following hypothetical deductions were made by Geist as probable causes of variability in the menstrual cycle:

- (1) A difference in the rate of production of the ovarian hormone.
- (2) A difference in the concentration of the hormones.
- (3) A variation in the rate of excretion of the hormones.

29. Asdell, S. A.: Time of Conception and of Ovulation in Relation to Menstrual Cycle, *J. A. M. A.* 89: 509-511 (Aug. 13) 1927.

30. Geist, S. H.: Variability of Menstrual Rhythm and Character, *Am. J. Obst. & Gynec.* 20: 320-323 (Sept.) 1930.

(4) The variable susceptibility of the individual to the hormones; or

(5) A variation in the synergistic activity of the hormones.

The processes of ovulation and menstruation occur with marvelous regularity, governed as they are by the hormones of the pituitary—"the motor of ovarian function." Other glands of internal secretion, particularly the thyroid and adrenals, doubtless may alter the regularity of the function of the anterior pituitary hormones. Nervous and emotional conditions brought about by grief, excitement or fear have been shown to alter the menstrual regularity and perhaps affect ovulation.

There are some women who menstruate every 21 days and there are those who menstruate every 14 days. Anderson<sup>6</sup> contends that there is an overlapping of the cycle and that a second ovulation is taking place before menstruation has completed the first cycle. This accounts for at least some of the pregnancies which occur from intercourse in the week preceding menstruation and will also account for some of the cases who menstruate after conception has taken place. In the study by Sanes<sup>31</sup> 3.8 per cent of women menstruate every 21 days. These women ovulate very shortly after menstruation. The oestrus period for these women should occur then during menstruation. Hoehne<sup>32</sup> has shown that menstrual blood is a particularly favorable medium for the persistence of the motility of the sperm.

The hormone theory of menstruation belongs to our own generation for it was not until 1899 that Knauer<sup>33</sup> by his transplantation experiments showed that the ovarian influence responsible for menstruation is exerted through the blood stream and not through the nervous system as had been believed.

As regards the vaginal smear method of studying the chronology of the sex cycle in the lower animals, anatomists and physiologists have applied themselves vigorously to this field of work and progress has been made in the last few years.

31. Sanes, K. I.: Menstrual Statistics, *Am. J. Obst.* 73-93, 1916.

32. Hoehne, O.: *Vehr. h. Deutsch Ges. fur G. & G.* 2: 514, 1913.

*Zentralbl. f.* 38: 509, 1914.

33. Knauer, *Arch. f. Gynak* 60: 332, 1900.

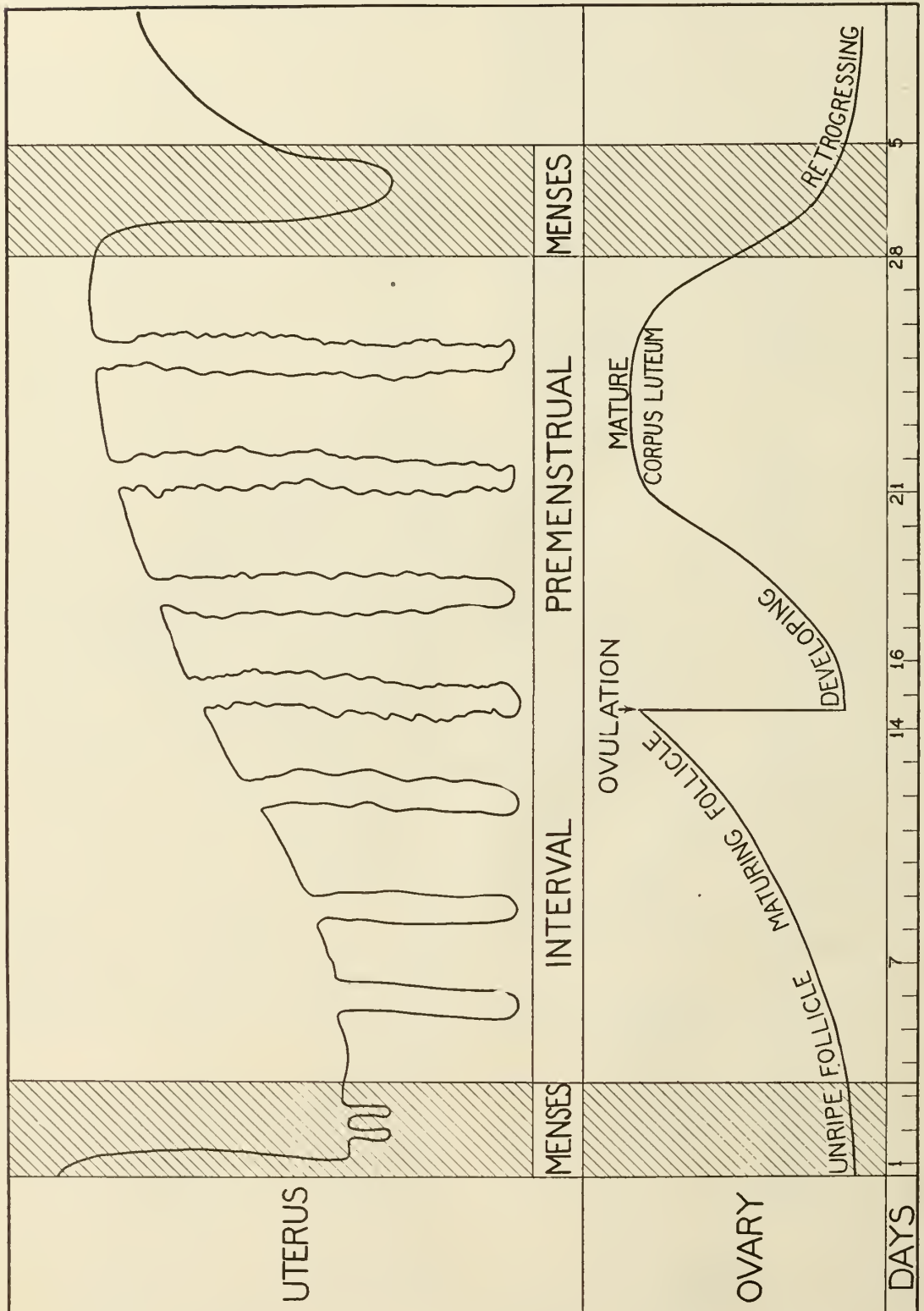


Fig. 3



The corpus luteum and the pregravid endometrium are synchronous. If fertilization of the ovum takes place the pregravid endometrium undergoes further development to become the early decidua, while the corpus luteum likewise remains and develops into the corpus luteum of pregnancy. Novak<sup>11</sup> has advanced the theory that there is an anovulatory period. By this, menstruation can take place without the ovum being extruded, even though the process of ovulation is going on, this accounting for a certain number of cases of sterility.

Von Der Leyen<sup>34</sup> et al have studied the tissue extruded during the menstrual periods and all have found that in the early days of the menses mucosa is passed with the menstrual discharge. Rotter<sup>34</sup> investigated the morphology of the menstrual blood, paying particular attention to the hematology. He was able to demonstrate the diagnostic value of differential white cell counts and concluded that the findings in the genital blood might be of assistance in diagnosing carcinoma and in recognizing the interval bleeding due to inflammatory disease. This gives additional diagnostic aid accompanied by hemorrhage. According to Schroeder<sup>35</sup> the cause of bleeding in the hyperplasias is due to small areas of necrosis, thrombosis, or necrobiosis. But it is generally considered to be some change in the permeability of the blood vessels.

The menstrual deficiencies may be classified as follows:

As to cause: (1) essential due to changes in the generative organs; (2) symptomatic, associated with such systemic diseases as chlorosis, tuberculosis, etc.

As to type: (1) complete cessation-amenorrhea for months or years; (2) scanty amount, normal interval-oligomenorrhea; (3) normal amount, prolonged interval-opsomenorrhea; (4) scanty amount; prolonged interval-oligo-opsomenorrhea.

Occasionally a woman continues to menstruate regularly throughout pregnancy. More frequently a flow is seen regularly

during the first three or four months, and under such circumstances it is not unusual to find the uterus irregularly softened. Many women during the early months of pregnancy experience menstrual symptoms without flow. Spontaneous abortion is most likely to occur in the early months of pregnancy at times corresponding to the menstrual period. In many instances where there is no pelvic pathology found present menorrhagia is caused by some endocrine dysfunction and in all cases this should be studied if possible to determine the particular one at fault.

The classical description of the uterine gland presents a slender tubule, coursing perpendicular to the surface and ending, simply or dichotomous division, at the tunica muscularis. Sinuosity of occasional glands was accepted as normal.

Schroeder's scheme of the menstrual cycle outlined and illustrated by photomicrographs might be summarized as follows:

(1) Proliferative phase: Fourth or fifth to 14th day of the cycle; slender tubular glands with high columnar epithelium. Progressively increasing mitotic activity in both glands and stroma. Correlated with the ripening of a new graafian follicle.

(2) Secretory phase: Fifteenth to 28th day. Glycogen, mucicarmine positive material, and fat appear in the gland cells and then in the lumen. The glands become sinuous or saw-toothed. Stroma cells enlarge superficially. The vessels hypertrophy. Correlated with this phase is the development of the corpus luteum.

(3) Desquamatory and regenerative phase: First to 4th or 5th days of cycle. Following leucocytic invasion and pyknosis in the superficial mucous membrane, extravasation of blood and desquamation occur. Re-epithelization soon follows. Correlated with this phase is the degeneration of the corpus luteum.

The decidual gland: If an ovum is implanted in the endometrium, menstruation does not interrupt the process of pregravid change; secretory activity continues in the gland epithelium and stroma changes are accelerated in a striking fashion. The simple tubular glands may end in slight dilatation at the base of the mucous membrane; or they may divide at any point in their course, but this is uncommon except in the

34. Geist, S. H.: Morphology of Normal Menstrual Blood and Its Diagnostic Value, Surg. Gynec. Obst. 49: 145-149 (Aug.) 1929; Am. J. Obst. & Gynec. 18: 321-332 (Sept.) 1929.

35. Schroeder: Ovulation, Menstruation and the Hormones, Am. J. Surg. May 17, 1932.

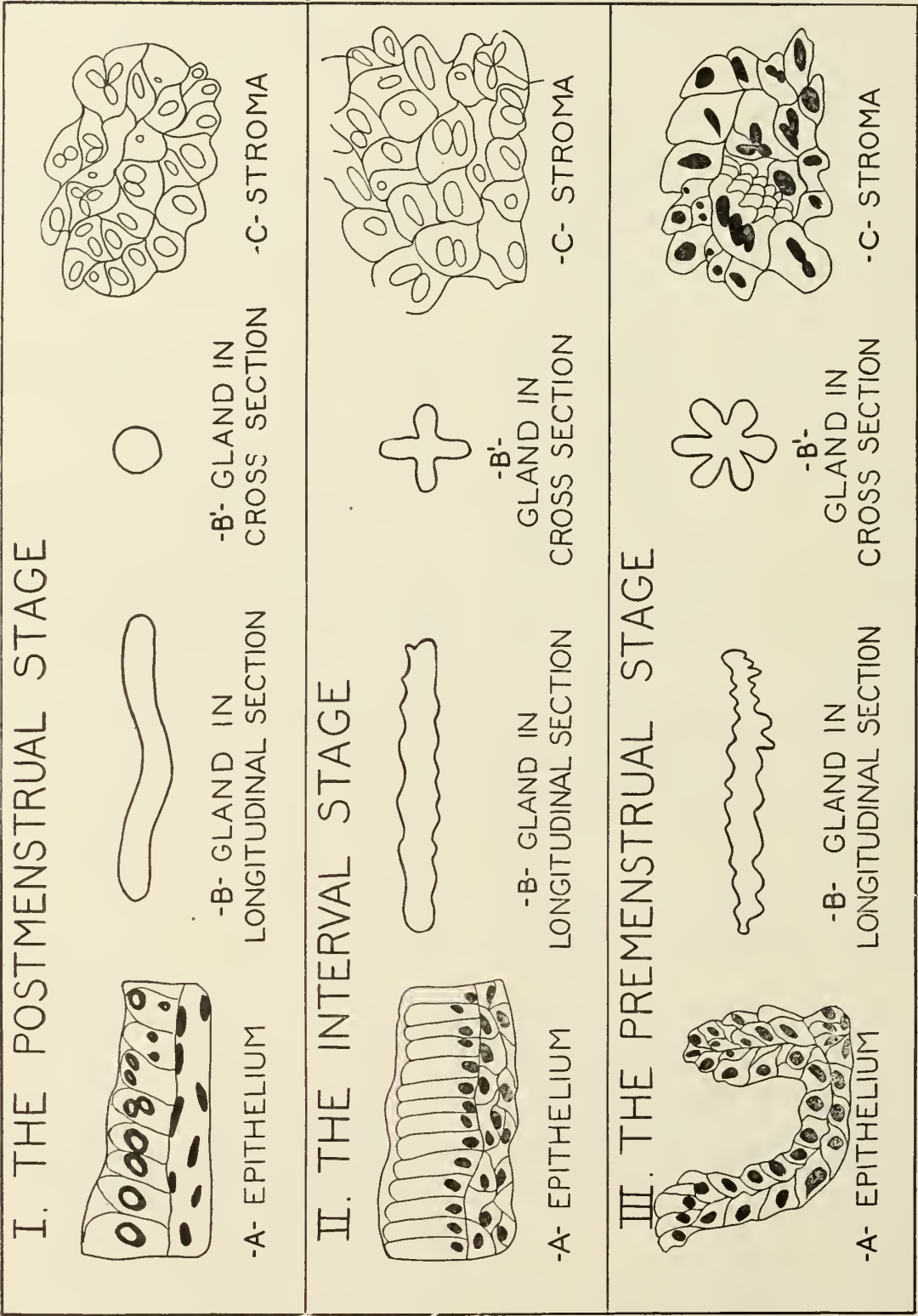


Fig. 4



lamina basalis. The typical decidual gland is characterized by two features: (1) A long slender neck traversing the stratum compactum and resulting from pressure and dilatation. (2) The original irregularities persist as projections into the lumen.

The cyclic changes<sup>28</sup> in the endometrium of mature human beings have been described and correlated with synchronous changes in the ovaries.

A modification of the Klingler and Burch<sup>13</sup> suction curet has been described and shown to be of service in the study of the endometrium and through this of female sex endocrine physiology.

Stetten<sup>36</sup> has stated that, in his observations, if a woman on whom an abdominal operation has recently been performed begins to menstruate either at the time that corresponds to her regular period, or especially before her regular period, it is almost a certainty that the postoperative course will be smooth and uneventful. If menstruation appears, it is logical to assume that there is no trouble, and the sooner it appears the less chance for further trouble.

The problem of atrophy following the menopause is the one of great importance. Atrophy following the artificial menopause is no more than after the natural menopause. More or less atrophy necessarily follows loss of ovarian function; growth and sustained growth require function.

(1) Studies of the menstrual phenomena and of the ductless glands are inseparable.

(2) Conservatively 70% of women with endocrine dyscrasia have menstrual irregularities.

(3) The anterior hypophysis, ovaries, thyroid, adrenals, and placenta have marked influence over sex functions and menstruation.

(4) Recent experimental work shows that the anterior pituitary is essential in producing menstruation.

(5) Treatment must depend on the glands involved and gives results in a satisfactory percentage of patients.

Uterine bleeding between periods is frequently associated with endocrine dysfunction.

36. Stetten, DeW.: Menstruation After Abdominal Operations; Its Early Appearance as Favorable Prognostic Sign, *Am. J. Surg.* 23: 361-363 (Feb.) 1934.

tion. Frank<sup>37</sup> states that most cases of menorrhagia and metrorrhagia are due to hyperfunctioning, but have frequently seen menorrhagia associated with hypo-ovarianism, particularly when menstruation is delayed several days to two weeks or more, also in hypothyroidism.

In the preceding sections we have been discussing ovulation and menstruation. Let us now discuss briefly the "safe or sterile period" and finding the "safe period."

It has been shown that ovulation occurs uniformly in practically all cases from the 12th to the 16th day preceding first day of next menstruation, and further the life of the ovum is practically 24 hours. The time in which the sperm cell is capable of fecundation is not more than 48 to 72 hours. Hence there is left a rather short period in which conception is possible during the menstrual cycle.

There have been devised a number of rules and schemes whereby a patient might be able to figure out this "safe period," but one of the first things for her to determine is her ovulation time. For this to be worked out successfully, it is necessary for the physician to teach the patient to recognize the symptoms of ovulation. This done she can take the ovulation time table, such as has been invented, and determine her own individual cycle, and the "safe or sterile period" and the "fertile period" of that cycle.

To teach the patient it is well to get as much history as possible concerning the menstrual cycle, especially with regard to irregularities. Second, stress the necessity of keeping an accurate record of the menstruation to determine her individual cycle. Third, explain the physiology of ovulation to the patient and describe to her the symptoms as follows: Much like the discomfort felt from gas in the intestines. Pain is rather high in the abdomen about the level of the umbilicus, on one side or the other as to which ovary is ovulating. Slight tenderness on pressure. Many feel as if they were going to menstruate in the middle of the month. The multiparous woman tells of feeling much like the first time she sat on a toilet after her babies

37. Frank, R. T.: Female Sex Hormone, Springfield, Charles C. Thomas, 1929.

were born. There may be a slight soreness of the breasts. An increase in vaginal discharge enough to give a slight discharge during that day. When a plug of mucus passes a day or so later they are able to predict the time of the oncoming menstruation from the time of passing this "mucus plug". In a few cases there is a slight bleeding.

As ovulation may come a few days later or earlier than on exact day indicated by the cycle card, the physician should outline or check about five days (two days before and two or three days after the expected time for ovulation) and request patient to keep an accurate account in her own code. Anderson<sup>6</sup> gives the following suggestions:

- (x) Indicating the number of days occupied by menstruation
- (.) Indicating intercourse on that particular date
- (0) Indicating suspected ovulation or
- (r) Indicating ovulation in the right ovary.
- (l) Indicating ovulation in the left ovary.
- (-) Meaning passed plug of mucus.

The patient should return to the physician each month for three or four months to see if she is properly recording data. Anderson's slide rule shows at a glance the "safe period," the time when ovulation should occur, the time when conception is most likely, and has a space on the reverse side for permanent record of menstruation and ovulation.

Seigel<sup>9</sup> in his studies in Germany during the war reports that "conception did not occur in a single case when the husband's return coincided with the 23rd day after the beginning of menstruation."

In 100 cases studied by Anderson there were only 4 reported failures and one of these he figured should not be charged against the method. He thinks that when a patient becomes thoroughly acquainted with the symptoms of ovulation that the percentage of failures should be even less than 3 per cent.

Ogino,<sup>8</sup> after 7 years' experimentation, says: "Cohabitation after the time of ovulation has remained sterile in spite of attempts made many months throughout many years." This new theory as explained by Ogino-Knaus<sup>9</sup> is that the period during which the woman is apt to be fecundated does not exceed 7 to 8 days (five days

for ovulation and two or three days for the life of the sperm).

#### SUMMARY

Women can be taught to recognize the symptoms of ovulation.

Women should be taught to keep a permanent record of ovulation as well as menstruation.

Women who have regular menstrual cycles have definite "safe periods" upon which they can depend.

Determining the exact time of ovulation in each individual case greatly reduces the chance of error in determining the "safe period."

The Ogino-Knaus theory is based on sound facts and will hold good if errors are not made in using the simple blanket formulas and calculations.

No physiological law can be 100 per cent reliable and this theory is no exception. However, there is much certainty that pregnancy will not occur during the sterile periods.

For the "safe period" as a birth control measure general rules are necessary and some test or tests that may be applied to the individual woman. The latter would seem the most promising line to follow. The problem as a whole has three main aspects: statistical, therapeutic, and theological.

The question, Is there a "safe period"? is being answered in the affirmative for certain women. A biologic study of contraception, popularly known as the "safe period," is apparently the one technic short of complete abstinence that has thus far been free from criticism on religious and social grounds.

The maximum time of conception is the period from the 8th or 10th day to the 18th or 20th day of the menstrual cycle. In women with regular menstrual cycles the problem is not difficult.

Knaus,<sup>37</sup> by experiment, has come to the conclusion that there is a definite period of sterility in women with a 28-day cycle. There are two classes of women who have a four weeks' cycle. One group shows a tendency to a slight diminution in the interval and they menstruate every 26 to 28 days. The second group has a tendency to have a longer menstrual interval, which usually varies from 28 to 30 days.



If we agree with Grosser<sup>36</sup> that a minimum of 10 days is required for the wandering period of an ovum, it follows that, in women with a 28-day cycle, ovulation and conception must occur together approximately on the 14th to 16th day of the cycle so that implantation may occur and prevent the onset of menstruation:

The Ogino-Knaus method or natural means of contraception is a great boon, especially to those whose religion or for other reasons are not willing to resort to usual forms of contraception.

It should be remembered that ovulation determines menstruation rather than the reverse; that they do not occur at the same time, as most of us were taught.

Another fact to consider in working out the "safe period" for those with irregular menstrual cycles, such as of 21 or 14 days, is that there is a definite time of approximately 14 to 16 days from the time ovulation takes place until normal menstruation occurs; that with these shorter cycles of twenty-one days the process of the present menstruation has not entirely finished before the next ovulation. Hence, there is an overlapping of ovulation with menstruation, this accounting for many of the conceptions following intercourse during the menstrual period.

Knaus<sup>7</sup> working independently, arrived at the following conclusions:

(1) For women with a regular menstrual cycle of 26 days, conception possibilities are limited to the time from the 9th to the 13th days, inclusive, before the beginning of the next menstruation.

(2) For women with a regular menstrual cycle of 27 days, conception possibilities are limited to the time from the 10th to the 14th days inclusive.

(3) For women with a regular menstrual cycle of 28 days, conception possibilities are limited to the time from the 11th to the 15th days inclusive.

(4) For women with a regular menstrual cycle of 30 days, conception possibilities are limited to the time from the 13th to the 17th days inclusive.

(5) For women with a regular menstrual cycle of 34 days, conception possi-

bilities are limited to the time from the 17th to the 21st days inclusive.

(6) For women with a regular menstrual cycle of 28 to 30 days conception possibilities are limited to the time from the 11th to the 17th days inclusive with the maximum of same at the 14th to the 16th days.

(7) For women with a regular menstrual cycle of 26 to 30 days conception possibilities are limited to the time from the 9th to the 17th days inclusive of the menstrual cycle.

For menstrual cycles of other variations, the conception period may be computed in the same manner as stated above, these calculations being true only for normal, healthy women with a regular variation in the cycle as stated above.

In the study of this subject, with special reference to the "safe period," I am reminded of the present bill on sterilization before the Legislature and shall voice my approval for such a bill. Certainly it is most unfortunate to reproduce the mentally unfit when such could be prevented without harm or discomfort to those producing them.

This paper is not written to advocate artificial means of contraception, but to insist that the medical profession assume its role as scientific advisers on this most delicate and sacred subject. A method is outlined whereby health and happiness may be conserved without transgressing the laws of God or Church, or wounding the esthetic senses of our people.

#### CONCLUSIONS

(1) In a consideration of ovulation, menstruation and finding the "safe period," the ovum is one of the great factors involved.

(2) After a search of ova at time of operation and study otherwise, it is generally accepted that ovulation takes place in the majority of cases from the 14th to the 16th day of the menstrual cycle.

(3) Three signs of ovulation advanced are:

(a) Intermenstrual pain or "Mittelschmerz."

(b) Intermenstrual spotting (this is rare).

36. Physiologic Sterility and Conceptive Capacity, J. A. M. A. 98: 1017 (Mar. 19) 1932.

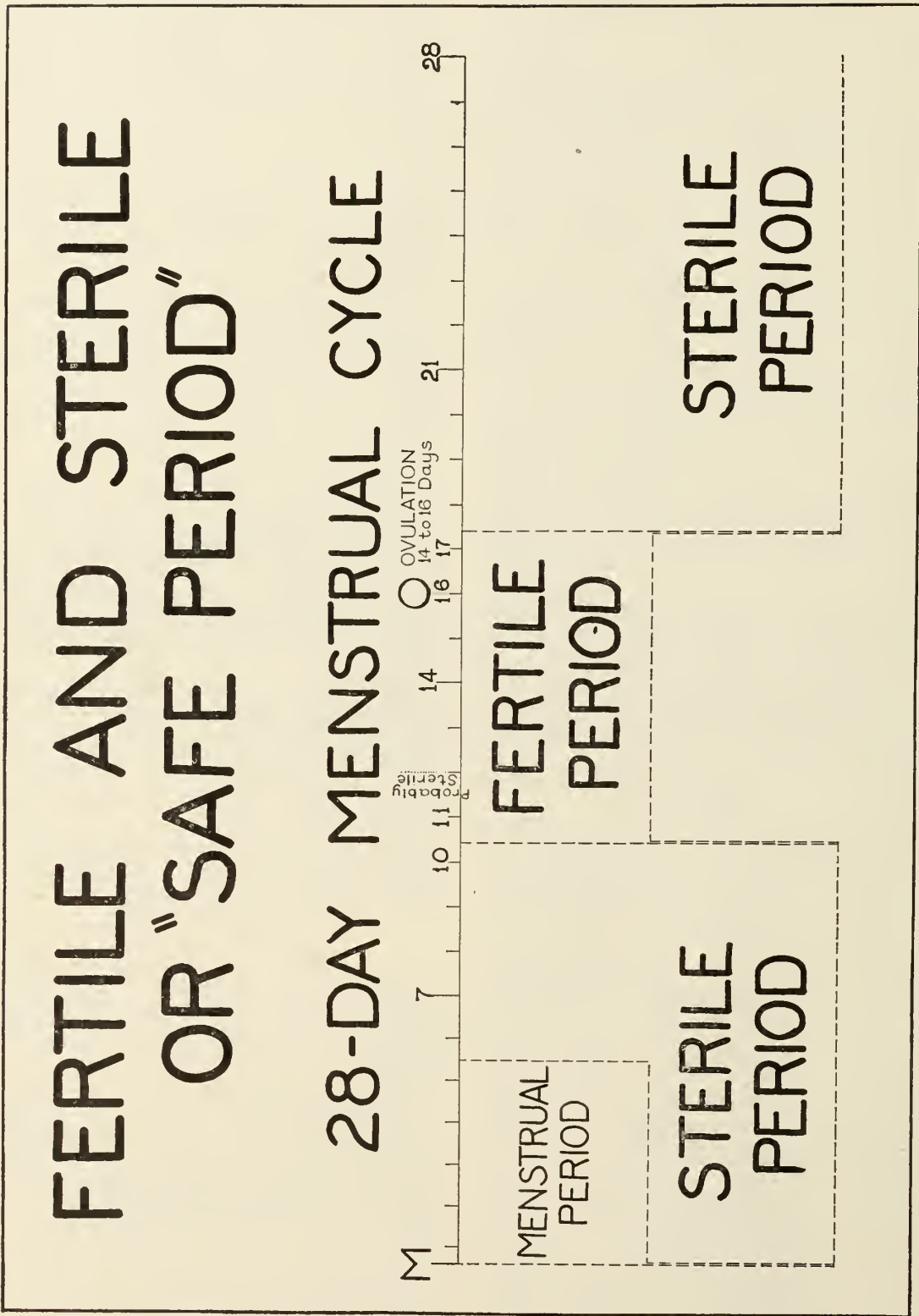


Fig. 5



(c) The sudden appearance of prolan A in the urine of non-pregnant women on the 10th to 13th day.

(4) The period in which the ovum is capable of being fertilized is generally considered to be not more than 24 hours and the sperm not more than 48 to 72 hours. The motility of the sperm does not insure its power of fertilization.

(5) Gynecology as a specialty embraces not only gynecologic surgery but also the special anatomy, physiology and pathology of the female reproductive organs.

(6) The conservation of the reproductive function is of first importance but conservation of the ovary and its continuous internal secretion should always be considered.

(7) Is there a "sterile" or "safe period" in which normal sexual relations can be had without conception taking place? In many women this can be answered in the affirmative.

(8) The so-called "safe period" in women with normal 28-day menstrual cycles can usually be considered between the 11th and 17th day preceding the next menstruation.

(9) This paper is not written to advocate artificial means of contraception but to insist that the medical profession assume its role as scientific advisers on this most delicate and sacred subject. The question should not be exploited by organizations who do not solve the problem but only add insult to many who for religious or esthetic reasons object to usual contraceptive methods.

1111 So. 20th St. (Five Points).

**Poliomyelitis**—When the fever is over we should start with cautious, passive movements of the paralyzed extremities which are gradually increased. Partial baths, as warm as possible, or warm compresses and kneading massage, modified carefully to the sensitiveness to pain, further the recovery of the muscles. The massages can usually be started after the second week. Faradic current is used after the third week. As convalescence proceeds active exercise should be begun, at first in a warm bath, and above all, with great care that the patient does not become overtired. Mechanical and electrical exercise treatment should be continued for months and it not infrequently brings results. If severe muscular dystrophies develop we should have an orthopedic consultation as the patient can often be greatly helped by small splints or supporting apparatus.—*Shield, Virginia M. Monthly, Sept. '35.*

## CHRONIC HOARSENESS\*

By

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Anniston, Alabama

Man's ability to talk is one of the things that differentiates him from other animals. The real value of the gift is rarely appreciated until it is lost. Impairment of this faculty is often a real handicap. It is usually unwise to select and discuss a single symptom of a disease; but often hoarseness or impairment of the voice is the only disability of which the patient complains. Your essayist realizes full well that the subject could probably best be presented by a throat specialist; but if we can impress our hearers with the gravity of the symptom and give aid in pointing the way to finding the pathology producing the defect we shall feel justified in presenting the theme.

No attempt will be made to enumerate all the abnormalities, injuries and diseases that may give rise to the symptom; only the general principles which guide us in the diagnosis and treatment will be pointed out.

The malady is no respecter of age. It may appear within a few days after birth and mar the joy of the parents. Later it may hinder the education of the child and may even threaten life with suffocation. In adult life hoarseness may force the man who is dependent on his voice for his livelihood to lose his job. No age is immune to this embarrassing condition.

Congenital syphilis is usually the cause of the hoarse cry of the infant. The family history and the Wassermann test will confirm the diagnosis. Active antileptic treatment will usually relieve the symptom and save the life of the baby.

Papillomatous growths in the larynx should be looked for when a child five to ten years of age has a prolonged loss of voice. These growths may give rise to cough and even dyspnea. Laryngoscopic examination will reveal the pathology. Surgical removal of the papillomata under general anesthesia is the treatment.

Young adults, more especially young girls, may develop hysteric aphonia following acute laryngitis. It does not come on

\*Read before the Association in annual session, Mobile, April 17, 1935.

from purely psychic causes, yet it is not independent of psychic factors. The connection between the cerebral innervation and the vocal cords is temporarily lost as a result of the laryngitis. The diagnosis of this type of aphonia is to be made on the history, the negative laryngoscopic findings and the ability of the patient to cough normally. The treatment is largely suggestive; the patient must be induced to believe the voice will soon return. Often a strong faradic shock will bring startling results.

Prolonged loss of voice is frequently met with in adults who use their voices for professional purposes. This condition is generally a simple chronic laryngitis and is most often found in those who are intemperate in eating, smoking or drinking. The laryngoscope will reveal thickened, congested cords. The underlying cause must be found and removed. Habits of diet and mode of living must be regulated. The patient must let the throat rest and give the cords a chance to return to normal. Singer's nodules sometimes appear on the cords in chronic laryngitis. Often they may be removed with laryngeal forceps or destroyed with cautery.

In addition to papillomata other non-malignant new growths may produce hoarseness. Warty growths and fibromata may be found to be the causative factor. The treatment is surgical.

In cases of chronic hoarseness due to ulcerative lesions of the cords, syphilis, tuberculosis and malignancy must be considered. The Wassermann may be relied on in most instances to determine the presence or absence of syphilis. Tuberculous infection of the throat is rarely primary and a careful check of the chest including x-ray examination should be made. Having ruled out syphilis and tuberculosis one should give very serious consideration to malignancy. Chronic hoarseness is often the only symptom of early malignant disease involving the cord. Early diagnosis by an expert laryngologist may lead to a radical operation and to the saving of a life.

We have called attention to the more common local causes of chronic hoarseness. We now wish to give special emphasis to hoarseness due to paralysis of the cords. Let us keep in mind that the motor nerve

supply of the cord is from the recurrent laryngeal and that interference with this nerve results in inability to use the involved cord. This type of hoarseness is much more common in adults. Herbert Tilley, Surgeon to the Ear and Throat Department of the University College Hospital in London, gives the following conditions as causative factors in the production of paralysis of the laryngeal muscles:

1. Acute rheumatic influences
2. Catarrhal neuritis
3. Toxic influences (lead, arsenic, etc.)
4. Tumors in posterior cavity of the skull or in the foramen lacerum
5. Pachymeningitis
6. Traumatism, unintentional ligature of nerves, injection of iodine into a goitre, cut throat, stabbing injury during extirpation of a goitre
7. Tumors of the neck, goitre, peritracheal glands, etc.
8. Aneurysms of the arch of the aorta, innominate, subclavian or carotid
9. Mediastinal tumors, malignant, tuberculous calcification of bronchial glands, etc.
10. Pericarditis
11. Pleurisy
12. Tuberculosis and pleuritic thickening of apex of right lung
13. Chronic pulmonary affections, anthracosis, etc.
14. Infectious fevers, typhoid, etc.
15. Esophageal carcinoma

When an adult presents himself with a history of chronic hoarseness and the laryngologist finds that either or both cords are motionless, he should search for one of these conditions. It is here that the work of the general practitioner is called for, and the diagnosis of the causative factor is not always easy. One should think first of aneurysm of the arch of the aorta; this can be determined with the fluoroscope and x-ray. Carcinoma of the esophagus can usually be demonstrated by a barium meal under the fluoroscope. Likewise any intrathoracic growth can be detected by carefully taken stereoscopic films. If the right cord alone is involved, the possibility of pleuritic thickening about the right pulmonary apex should be sought. The treatment and final outcome of the case is entirely dependent on finding the cause and applying proper means for releasing the pressure on the involved cord.

The importance of a thorough study of this type case may be best illustrated by



the report of a case that came under my observation about a year ago. This patient led to choice of this subject. He presented himself in my office early in April 1934. He was a white male, age 38, six feet tall and weighing 160 pounds. Family history was of no importance. The patient was an ex-service man and had never had any serious illness; general health had been excellent. There had been no loss of weight or impairment of health in recent months. His only complaint was hoarseness for past three days, gradually growing worse. At first visit his pulse, temperature and respiration were normal. Physical examination of chest showed no abnormalities of heart or lungs. His blood pressure was 125 over 80. Inspection of throat showed his tonsils had been removed. His pharynx was slightly red and congested. A diagnosis of acute laryngitis was made and treatment for same was given. I saw the patient four times during the following week and there was no improvement in his condition. He was then referred to a local throat specialist. He was under his care for ten days and then returned to me, unable to speak above a whisper, with a diagnosis of left motor cord paralysis, probably due to pressure on recurrent laryngeal nerve. A search for the underlying cause was instituted. A very careful physical examination of his chest did not reveal any abnormalities. Wassermann was negative. He was then referred to a local roentgenologist for fluoroscopic and x-ray examination of chest and the following report was given me on May 2:

Stereoscopic films in postero-anterior position: The trachea bifurcates opposite the first rib anteriorly.

Right Lung: The apex is distinctly cloudy. The vertebral trunk extends diagonally from just below the junction of the internal end of the clavicle and the costosternal cartilage downward and inward to its usual position. The first, second and third interspace trunks contain a few coarse markings. These extend from the hilum and reach the periphery in the second and third interspaces where they show some interweaving. The lung periphery is slightly opaque. The base of the chest, with attendant angles, is negative. There is marked peribronchial infiltration throughout, and some increase in size in the hilar lymph glands.

Left Lung: The apex is distinctly cloudy. The vertebral trunk contains coarse studdings to the apex. There is a small area of opacity strongly

suggesting calcification on the superior surface of the second rib anteriorly just below the center of the clavicle. The first, second and third interspace trunks contain a few coarse markings which reach from the hilum to the periphery but do not show definite interweaving. The base of the chest, with attendant angles, is negative. There is marked peribronchial infiltration and small rounded opaque masses in the mid-lung area from the third to the fifth ribs anteriorly. There is some enlargement of the hilar lymph glands. The heart and aorta are normal in size and position.

Stereoscopic films in lateral position: These films show a circular mass lying between the ascending and descending branches of the aorta one inch under the arch. The mass measures approximately one and one-quarter inches in diameter, is circular and with the greater density in the outer edge. There is nothing that suggests a dilatation, regular or sacculated, of any portion of the aorta. The glands situated in the posterior mediastinum appear to be enlarged.

Six foot film: Postero-anterior and lateral films. The six foot postero-anterior film shows no definite pathology other than that stated above. The lateral film shows very plainly the glandular mass described above and lying approximately two inches below the level of the sterno-clavicular articulation. In addition a calcified gland is plainly seen one inch below the superior margin of the sternum. The soft tissue film shows no additional pathology and certainly no evidence of ulceration in the region of the larynx. There is no narrowing of the trachea in the region of the sternum.

Roentgen Diagnosis: The appearance of the chest on both postero-anterior and lateral films, together with the lack of evidence of dilatation, sacculated or regular, of the aorta, and the absence of any tumor mass in the mediastinum strongly suggest that there is an enlarged gland lying between the ascending and descending branches of the aorta and one inch below the arch, which is probably producing pressure on the recurrent laryngeal nerve. A diagnosis of hilar tuberculosis from the roentgen ray is extremely unsatisfactory, yet the general appearance of the chest strongly suggests that this is the type of pathology present in this case. The fact that there is marked peribronchial infiltration, that both apices are not clear, the scarring in the upper left lung periphery and the increase in size in the hilar lymph glands as shown on both stereoscopic and lateral films strongly suggest this type of chronic pathology. Beyond this no definite statement can be made. It is suggested that after appropriate treatment a further examination be made in the course of six weeks to two months, for a comparison and recheck of the case.

The patient was sent to Florida for three weeks' rest and sunshine. He was put on a full diet and gained ten pounds during the month. X-ray therapy with the idea of shrinking the gland was given on June 5th, July 8th and August 5th. About the middle of August the patient noticed improvement in voice and within a few

weeks was apparently fully recovered. A recheck of his chest was made on October 11th with this report:

The stereoscopic films show a marked diminution in the size of the previously existing mass in the posterior mediastinum. This now measures approximately one inch in length in the vertical body diameter and slightly over three-fourths of an inch in width in the transverse body diameter and lying directly within the arch of the aorta.

A two meter lateral and postero-anterior films were made of the chest. The lateral film shows the mass as previously described to be considerably reduced in density and with an approximate reduction of fifty per cent in size. The postero-anterior film is negative and shows moderate decrease in the amount of hilar and peribronchial markings shown on the previous films.

Diagnosis: The present films show a considerable reduction both in density and in size of the gland which was previously present against the recurrent laryngeal nerve. Associated with this the postero-anterior film shows considerable reduction in the number and amount of markings in the hilar area of the chest. It is safe to say that there is considerable improvement in this condition since the first set of films were made. It is recommended that nothing further be done for three months after which another set of films be made to determine the position at that time.

On April 2, 1935, in spite of the fact that there was no recurrence of trouble, another x-ray examination was made, report of which was as follows:

The present films were made for the determination of the size of the gland as previously reported. These films show that the opacity of the gland located in the region of the arch of the aorta has greatly decreased and that its size has shrunk and there appears to be at least a quarter of an inch of clear space between the anterior margin of the gland and the posterior arch of the aorta. The posterior mediastinal spaces do not contain any definite glandular masses of increased size or density. Considerable fibroid infiltration is present in this area.

The appearance of the plain films bears out the stereoscopic films. The posterior-anterior film shows a marked increase in the size and amount of the hilar shadows but without any smooth regular shadows characteristic of either glandular or mal-disease. There is considerable peribronchial infiltration. The lung periphery appears fairly clear although both apices are somewhat cloudy. A small rounded area of calcification present just posterior to the center of the manubrium sterni is still shown on the films.

Diagnosis: The diagnosis is considerable shrinkage of the previously reported gland in the region of the arch of the aorta together with considerable decrease in density of the gland. The area of calcification previously reported just posterior to the center of the manubrium sterni is still shown on

the films. Considerable increase in the size of the hilar shadows is shown but without definite evidence suggesting glandular or malignant involvement. The lung periphery is still negative throughout.

In closing let me say that if I have impressed you with the gravity of this symptom and have given you any aid in pointing the way to finding the pathology producing the defect, I feel justified in presenting this paper.

## THE VALUE OF LOCAL APPLICATIONS IN DISEASES OF THE RESPIRATORY TRACT\*

By

C. O. LAWRENCE, M. D.  
Clanton, Alabama

Some kind of local application is universally among the first thoughts of practically all physicians, especially those of us who practice among the poorer classes, in pneumonia or any of the chest diseases. And the number and variety of substances used by the laity truly vies with the contents of Pandora's box. It may also be said that the farther away the patient is from the city and the poorer the quality of nursing, the more the doctor is inclined to agree that the poultice, tar jacket, or what-have-you have as definite a value in the doctor's armamentarium as they did fifty years or more ago.

Historically, the general principle of local applications, or counterirritation, goes back at least to Roman times, with the use of ointments known as Eucharista which were applied as embrocations. Garlic, for instance, is known to have been used in Pompeii. However, we have no information as to the initial use of the substances used today such as menthol, camphor, methyl salicylate, oil of eucalyptus, oil of mustard and our old friend, tar.

The theories on which this therapeutic measure, counterirritation, is based have changed with the advancement of medical knowledge until, no explanation satisfactory to modern medicine being forthcoming, the use of these remedies has fallen into a certain disrepute in recent years.

The old theory of revulsion or derivation was first based on the belief that dis-

\*Read before the Association in annual session, Mobile, April 16, 1935.



ease was a malignant entity or humor which might be drawn from the deeper organs to the surface by means of irritation of the skin. Later it was supposed that the congestion of the diseased organs might be relieved by the withdrawal of fluid to the skin. And this belief has been held in more or less modified form in modern times. In addition it was recognized very early that irritation of the skin relieved pain in many instances. Large numbers of drugs have been used, and mechanical devices of all kinds, as well as simple heat and cold.

Scientifically, counterirritation is explained as being based on the distribution of nerve filaments from different segments in the spinal cord, the different organs having reflex spots or regions on the surface of the body. When these organs are in trouble the particular external regions are generally painful, and at times sore. Knowing the region that is a surface depot of information of the condition of a deeply seated organ gives the clue as to where the counterirritant should be applied to obtain a deep-seated benefit. In other words, the circulation and nervous energy of an organ can not be changed directly by what is done on a small part of the surface of the body, but both may be modified indirectly when the surface nerves transmit the irritation to their particular segment of the spinal cord, and reflexly that segment of the cord sends stimuli to the organ in trouble.

Counterirritation should not be placed directly over an inflamed region, if that region is near the surface. Rather it should be placed to one side, as in pericarditis; in pleurisy a short distance away from the acute pain; in intercostal neuralgia at the side of the spine over the point of exit of the afflicted nerve from the spinal column.

Probably no substance is more widely used than mustard. Most of the authorities agree with the majority of doctors that mustard in some form of application is most useful, especially in bronchial affections. Its action is fairly representative of all other counterirritants and may be used as a basis for comparison. Relief is afforded from the pain and tightness common to all respiratory diseases. In addition to this relief, there is produced an increased flow of blood which assists in removing accumulations of pus, bacteria, and

other waste material. The pain, especially in pleurisy, may be relieved by application of an ice bag, hot water bottle, electric pad, infrared heat and radiation, and diathermy, which does not properly come under the classification of local applications. The general opinion is held that some form of heat is most gratefully accepted by the patient and that when the pain is relieved there is no further need for counterirritation of any kind. Others believe that the measures should be continued since with each application there appears to be a stimulation of the vasomotor system and of the heart, as well as the respiratory center. Sometimes the result is an improved tone and accelerated circulation in the previously more or less paralyzed peripheral vessels. Chiefly as a consequence of the improved peripheral circulation, but also due to stimulation of its own nervous mechanism, the action of the heart is strengthened and cardiovascular contractions become less frequent.

The opinions of two authorities quoted below are representative of the division of thought among the medical profession on this question. Osler, in 1914, said, "Poultices are out of fashion but are sometimes of value. They should be light and are best kept in place by being slipped in pockets in a flannel jacket which is constantly worn so that the poultice can be replaced without disturbing the patient. The use of dry cups is often advised and should be applied frequently. The ice bag should be used if it gives comfort. If there is much restlessness hot packs are useful; cold packs if there is much fever." Beckman, in 1934, says, "External hydrotherapy should not be employed, save for the daily, quietly given, tepid sponge bath. The cold pack is a valuable circulatory stimulant, but it disturbs the patient far more than is advisable in pneumonia."

This paper has been deliberately abbreviated: first, because the literature gives ample counterirritation as the only end to be obtained in the use of local applications; and, second, because every investigation leads to a consideration of mustard as the best substance to use. Opinions differ widely, but it is safe to say that mustard will get us out of trouble, and failure to use it in some form often brings regrets.

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## VINCENT'S ANGINA

"The possibility of Vincent's infection should be thought of in every ulcerative condition of the mouth and throat; in every case of postoperative pneumonia, lung abscess, or bronchiectasis; and in all putrid or gangrenous processes, whether in the nose, ear, respiratory tract, or on the genitals, or skin." Thus does Clough<sup>1</sup> call our attention to this widespread and frequently overlooked disease. The fusiform bacillus (*Fusiformis dentium*) and the spirochete (*Borrelia vincenti*) are the etiologic agents and "diagnosis depends on demonstrating directly both organisms in properly prepared stained films from the ulcers. The exact relation of these two organisms to one another is not definitely known."

The primary lesion is apt to be on the tonsil (Vincent's angina), or on the gums (trench mouth) and from these sources the infection may spread to the lips, cheeks, tongue, palate or pharynx. "In most cases the ulcers remain limited to a relatively restricted area. The temperature is normal or only slightly elevated, and there is little or no constitutional disturbance. The disease runs a self-limited course, and recovery occurs in a few days. The ulcers heal without appreciable scarring."

1. Clough, Paul W.: The Treatment of Fusospirochetal Infections (Vincent's Disease), Med. Clinics of North America, 18: 1711 (May) 1935.

Occasionally, however, a more extensive area is involved, there is a temperature of 102° or 103°, and a marked constitutional reaction. Necrosis may penetrate into the deeper tissues, destroying the gums and exposing the roots of the teeth. Rarely there will be osteomyelitis of the underlying bone. "Ulceration in the throat may also penetrate very deeply, destroying the palate or the tissues at the base of the tongue, or the larynx; or it may perforate the lateral wall of the mouth or throat and produce a fistula." The nasal passage, the middle ear or the paranasal sinuses may be involved. The process may spread down the esophagus or down the trachea. "The external genitals may be the site of fusospirochetal ulcerations. They may constitute the primary infection or the infection may be superimposed on syphilitic, chancroidal, or other lesions, and give rise to deep phagedenic ulcers with extensive destruction of tissue. The process may extend into the vagina and uterus."

The author stresses the importance of good oral hygiene in the prevention and treatment of Vincent's stomatitis, and both physicians and dentists would do well to heed his warning not to extract teeth in the presence of this condition. Serious complications, even death, have been known to follow extraction during the acute stage of the disease. Few physicians probably realize how frequently fusospirochetal infection of the lung occurs, manifesting itself as bronchitis, bronchopneumonia, gangrene or bronchiectasis. "More frequently it leads to the development of a pulmonary abscess. The lung infection is usually the result of aspiration of organisms from the mouth, and most often follows an operation, particularly a tonsillectomy." This is something to be pondered over by those who advocate the ruthless and indiscriminate removal of any and all tonsils.

The writer reminds us that "diagnosis is not completed by the demonstration of the organisms. An acute Vincent's infection does not exclude the presence of some underlying organic disease, whether it be a carcinoma of the tongue, an acute leukemia, or an agranulocytic angina. Furthermore, Vincent's infection may be associated with other acute infections of the mouth



and throat, particularly with diphtheria."

Most physicians who have struggled with this widespread and frequently difficult disease will enjoy Clough's well written article and will agree with much of what he has to say. And the outline of treatment with which he closes is both excellent and brief and is as follows:

"In summary, the following scheme is suggested:

1. Adequate but gentle cleansing measures, including the frequent use of dilute oxidizing mouth washes.

2. Daily applications of oxidizing agents, of which sodium perborate seems to be the best; followed by an application of arsphenamine, as a paste; or acid potassium bismuth tartrate in 10 per cent solution, or 30 per cent ointment.

3. In severe, spreading, or resistant cases, small doses of neoarsphenamine intravenously; or in small children, sulpharsphenamine intramuscularly.

4. In cases of pulmonary lesions or other infections inaccessible to local applications, neoarsphenamine intravenously as soon as the diagnosis is made.

5. In infections which do not respond to these measures or which appear to have become resistant to arsenic, intramuscular injections of bismuth, or others of the alternative procedures discussed."

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## Association News

### NEW REGULATIONS CONCERNING INJURED EMPLOYEES OF WORKS PROGRESS ADMINISTRATION

(Reprinted from *J. A. M. A.*, August 3, 1935)

The Emergency Relief Appropriation Act of 1935 provides that the provisions of the Federal Employees' Compensation Act are extended, as far as applicable, to employees of the Federal Civil Works Administration for disability or death resulting from traumatic injury sustained while in the performance of duty. Traumatic injury includes "only injury by accident causing damage or harm to the physical structure of the body and shall not include a disease in any form except as it shall naturally result from the injury."

The administration of the Federal Employees' Compensation Act is vested in the United States Employees Compensation Commission, Washington, D. C., the commission being authorized to make necessary rules and regulations for the carrying out of the purposes of the act. Pursuant to this authority, the commission, July 15, 1935, promul-

gated Rules and Regulations No. 1, Governing Compensation and Medical Expense for Works Progress Administration.

#### SUMMARY OF RULES AND REGULATIONS NO. 1

The term "employee" includes only persons receiving security payments or wages from funds made available by the Emergency Relief Appropriation Act of 1935 for services rendered as employees of the United States. The term "physician" includes only graduates of a recognized medical school with a degree of M. D. who are licensed to practice medicine in the state in which they reside. The term "state compensation officer" as used in the regulations refers to the person on the staff of each State Works Progress Administrator who is charged with the duty of supervising the handling of compensation claims.

#### MEDICAL TREATMENT

Employees of the Works Progress Administration who suffer a traumatic injury while in the performance of duty, whether or not disability arises, are entitled to necessary medical and hospital care. Treatment will not be authorized for illness or disease in any form except as it may naturally arise from a traumatic injury by accident, causing harm or damage to the physical structure of the body. No provision is made for medical examinations to determine employees' physical qualifications for work.

Where practical, medical treatment is to be furnished by federal medical establishments, but these facilities may not be utilized to the exclusion or disadvantage of any other beneficiary for whom they have been specifically provided. Where federal medical facilities are not available, or where such facilities are inadequate to furnish the necessary services, the state compensation officer or his local representatives are authorized to make arrangements for medical care by reputable private physicians.

Medical fees are to be paid at rates not in excess of the minimum charges prevailing in the community for similar services. The regulations provide that the state compensation officer or his local representatives should contact the local medical societies to enlist their cooperation in selecting physicians in the locality who are especially well qualified to render services in industrial accident cases and who desire to render such service to employees of the Works Progress Administration, under the regulations of the commission. The fact that a physician, otherwise qualified, is not a member of a medical society is not to be considered in a way discriminatory to him. Compensation cases are to be distributed among physicians in as equitable a manner as possible.

A physician authorized to treat an injured employee may select the institution in which a patient is to be hospitalized, provided such institution agrees to the approved schedule of rates. The commission has agreed with representatives of the national hospital associations on basic rates with general hospitals for services to Works Progress Administration employees. The commission re-

serves the right to have its medical representatives examine patients and their records at the hospital and to cause a patient's removal for sufficient reason.

Where there is no doubt concerning the right of an employee to receive medical care, special form CA-16, or a letter containing the information required by that form, must be issued by the person in charge of a project or the compensation representative, in sending an injured employee to a physician or hospital for treatment. The request is made in duplicate and the original is left with the physician or hospital.

If there is doubt whether or not an employee is entitled to medical and hospital care, the person in charge of the project, or the local compensation representative, should send the employee for an examination, using special form CA-17. If the examination discloses that the employee is not entitled to treatment, the local compensation representative or other person who issued form CA-17 should immediately notify the physician or hospital that no treatment should be rendered for the account of the commission. If the local compensation representative is in doubt concerning the matter, he is to refer all details and circumstances to the state officer for advice. If the state officer entertains doubt, he is to refer the facts to the commission, at Washington, D. C., for decision. Form CA-17 authorizes necessary emergency treatment.

Form CA-16, or form CA-17, is the physician's authority for rendering services for the account of the commission, and bills cannot be paid in the absence of such authority. The regulations provide that authorization for treatment of an injured employee should not be issued to more than one physician; if a second physician is necessary, the attending physician has full authority to procure such assistance as he may deem necessary. If, however, a change of physicians becomes advisable, authority for treatment is to be issued to the physician to whom the case is transferred.

Authorization for treatment, the regulations provide, should be issued on the date of the injury or on the date the employee applies for treatment and should be sent to the physician at the time the employee is referred for treatment. Emergency cases may be referred before the issuance of form CA-16, provided the form is issued within forty-eight hours thereafter. When it is not practical to observe this requirement, the delay in issuing authorization must be explained—otherwise payment for medical services may be refused. All authority for treatment or hospitalization should be signed personally by the issuing officer. The name of the issuing officer typed on the form is not to be considered valid authority.

Attending physicians may engage special nursing service when such care is absolutely essential, without written authorization by the compensation officer. The commission's allowance for hospitalization covers all general nursing service. The necessity for special nursing must be shown in each case. Vouchers submitted by nurses must contain a certification that they are not employed on a sal-

ary basis in the hospital in which the service was rendered, and these vouchers must be approved by the attending physician.

#### HERNIAS

Special provisions are embodied in the regulations with respect to hernias. Form CA-17 should be used in all hernia cases. In general, no hernia operation is to be authorized by the state compensation officer, but such cases must be reported to the commission at Washington for authorization to proceed with the operation. In an emergency, however, "due to strangulation or incarceration," when it is clear that the complication is due to injury on a Works Progress Administration project, an emergency operation may be authorized locally. The provisions of the commission's general regulations promulgated under the Federal Employees' Compensation Act, relating specifically to hernias, are made applicable to cases of hernias developing in connection with the Works Progress Administration activities.

#### PREPARATION OF VOUCHERS FOR MEDICAL AND HOSPITAL SERVICE

Bills for medical and hospital services are to be submitted on form S-69 and supported by proper written authority authorizing such service, either special form CA-16 or CA-17 as the case may be, unless such authorization has previously been forwarded to the commission. A separate voucher must be submitted by each payee for services to each indigent employee.

Vouchers should be verified by the signature of the injured employee. Vouchers from physicians and hospitals on form S-69 should be submitted when the employee is discharged from treatment except when hospitalization or treatment extends more than thirty days, in which case the vouchers should be submitted at the end of each thirty-day period with a complete report from the attending physician showing the condition of the employee, the diagnosis and prognosis, and recommendations with reference to any future medical care.

#### VOUCHERS SUBMITTED BY PHYSICIANS

The following specific instructions should be followed by physicians, in submitting voucher form S-69: (a) All charges must be itemized to show specific dates on which treatments were rendered, the charge for each treatment and a concise description of the injury for which treatment was rendered. (b) X-ray charges should be itemized so as to show the dates on which made, number of views, parts of the body roentgenographed, and the charge for each service. (c) Joint accounts will not be authorized for payment. If the service of an assistant or consultant is required, the assistant or consultant must submit a separate voucher. (d) Physicians and hospitals must not submit a combined account. (e) Vouchers from physicians shall include a separate charge for drugs and must show whether such drugs were supplied from personal stock. If not, a receipted bill supporting the charge must accompany the voucher. All charges for drugs must be itemized.



#### VOUCHERS FOR HOSPITAL SERVICE

The following specific instructions must be followed in submitting voucher form S-69 for authorized hospital service: (a) Payment will be made for the day of admission but not for the day of discharge from the hospital, and vouchers should be submitted accordingly. (b) The per diem rate for hospitalization includes all drugs, dressings and laboratory work. (c) Payment for special drugs and supplies authorized by the attending physician will be approved. Whenever extra charges for special drugs or surgical supplies are made, the kind of drugs must be shown on the voucher and, if they are not supplied by the hospital, the amount claimed must be supported by a properly receipted bill. If not supplied from stock or supported by a receipted bill, the cost of the article should not be included in the hospital voucher and the druggist or firm supplying the articles should be instructed to submit a voucher. (e) All x-ray charges should be itemized as described in the preceding paragraph. (d) Hospitals and physicians must not submit a voucher combining the services of the two. When the physician is owner or part owner of the hospital, and accounts are submitted in the physician's name or in the name of the hospital, a separate voucher must be prepared for each class of service.

#### IN GENERAL

The regulations further provide, in detail, for the payment of necessary expenses incurred in the transportation of injured employees for the purpose of obtaining medical treatment, for the filing of reports of injuries, and for the payment of com-

pensation to injured employees or their surviving dependents.

#### APPROACHING REVISION OF THE AMERICAN MEDICAL DIRECTORY

The work of revising and compiling the new fourteenth edition of the American Medical Directory has been started.

After every directory is published, the American Medical Association receives a number of complaints from physicians who have not been listed as members or Fellows. This is due in many instances to lapse of membership, which your Secretary in Montgomery must report to the American Medical Association, but only after having written each one concerned urging that he continue his identification. In other cases new men have failed to join their local society in time to indicate this information in the directory.

To eliminate such criticism, both those who are permitting their membership to lapse and those who have not yet become identified should without delay act through their local medical societies to the end that all may be correctly entered in the directory. Another is not likely to be issued by the American Medical Association until 1938.

#### COMMUNITIES NEEDING PHYSICIANS

The Secretary of the Association (Dr. Douglas L. Cannon, 519 Dexter Avenue, Montgomery) knows of several communities badly in need of physicians. Those interested in change of location may procure information regarding these openings by directing a letter to the Secretary.

## DEPARTMENT OF PUBLIC HEALTH

### BUREAU OF ADMINISTRATION

J. N. Baker, M. D.  
State Health Officer in Charge

#### ALABAMA'S MOBILE X-RAY UNIT

In the special study of tuberculosis being carried on in Lee County, the x-ray plays a very important part. The Rockefeller Foundation is subsidizing the project, through the Alabama State Department of Health, and has provided the mobile x-ray unit in response to the great need for such equipment as demonstrated in the study.

The main objective of the investigation is the determination of the incidence of tuberculosis in a restricted representative area. An x-ray chest film is made on each individual and represents the foundation on which the classification of the pulmonary type is based. Portable Keleket x-ray

equipment has been used in Alabama chest clinics since 1931 and has proven dependable with uniformly good results. Similar equipment of the 30 M.A.-60 cycle type operating on a 110 volt alternating current is in use in Lee County. The intake of this model is 2 K.V.

Satisfactory electric current is available mainly in the municipalities and limits the number of chest clinic centres to these areas. Study of the rural areas requires transportation of this population group to the nearest clinic point and represents a major problem. The new mobile x-ray unit is the solution of this difficulty and allows clinic operation at any desired point. Developing of films is done in the Opelika office.

The unique arrangement of the unit allows a flexibility of function which is the key to its successful operation. An Onan



gasoline motor-generator set, self starting model with a 2 K.V. output, is housed in a sturdy two-wheel trailer. This provides adequate 110 volt A.C. to operate the 30 M.A. Keleket x-ray machine. The truck, a one and one-half ton model, has a specially built body which is designed and equipped to provide a complete x-ray and clinic set-up. A darkroom, 36x36 inches square, is built in the left front corner. Portable x-ray and clinic equipment-transformer stand, cassette holder-folding tables, et cetera, may be removed to allow the full use of built-in seating arrangements for twelve persons.

The generator installation in a detachable trailer rather than in the special truck body was decided upon to first eliminate any possibility of interference with x-ray technique by vibration, and secondly, to allow the use of the power unit at a clinic centre independent of the truck which can be released to provide any necessary transportation of patients.

The tuberculosis study has been in progress since May 1st, 1932 but the new mobile x-ray unit was added on May 15th, 1935. The period of its operation is too short to be too definite about its technical x-ray success. However, our observations to date have demonstrated that films are comparable to the uniformly good results prior to

its use. The effect of the addition of the new equipment on the progress of the study is good beyond our previous optimistic expectations. The value of the mobile unit, truck and special body, motor-generator and trailer, x-ray machine and all accessory clinic and x-ray equipment is approximately \$3,100.00. The operation of the unit has been very economical to date.

A. H. G.

#### REPORT OF HEALTH WORKERS' CONFERENCE

The recent conference of health workers of the State, which was attended by the county health officers and the members of their respective staffs, was the first such group meeting held in Alabama. The practice of getting full representation of the group, health officers, nurses and sanitation officers, is new, but it is believed that such a meeting, where all may know and discuss what is being done, will result in a better understanding of our problems and an increased efficiency on the part of every worker.

It was hoped that the Social Security Bill would have become law before the conference met. However, in spite of the fact that such was not the case, plans for an expanded health service were discussed, looking forward to the time when the So-



cial Security Bill becomes law. This Bill is intended to stimulate a comprehensive, nation-wide program of public health, financially and technically, aided by the Federal Government but supported, so far as possible, and administered by states and local communities.

Some of the plans and aims as outlined by certain department heads are as follows:

**Tuberculosis**—The diagnostic clinic service is to be strengthened and extended making it available to all counties, those without as well as those with organized health units, at least twice a year. Some counties which include larger centers of population may require more than two clinics a year. Plans are also being devised whereby the physicians in practice can get the latest advances in tuberculosis control.

**Venereal Diseases**—It is hoped that a great deal of the venereal disease program may be reestablished but not along identical lines. Plans will probably include clinics in the larger cities and a larger supply of venereal drugs.

**Hookworm**—In a recent hookworm survey among the school children in some half dozen counties 36% were found to have hookworm. If additional nurses and laboratory personnel become available, it is planned to extend this survey to as many counties as possible.

**Typhoid Fever**—With the possibility that, under the Works Progress Administration, many of the smaller towns may be able to install water works and sewer systems there should be a resultant lowering of our typhoid rate. Sanitation projects, the building of sanitary pit privies, are beginning to go forward in many counties and many schools and homes will be sanitized under this program.

**Malaria**—Malaria control drainage projects have been started in some counties under the Works Progress Administration. The inauguration of these projects is necessarily somewhat slow as the Works Progress Administration is an entirely new set-up for the relief people. The health department has only the technical direction of these projects and is working, under the rules of the relief organization, whatever labor is turned over to it in the counties. Though progress may seem slow much ba-

sic and lasting good will be accomplished in malaria control throughout the State.

**Child Hygiene and Public Health Nursing**—The expansion in this division will be largely in nursing. It is anticipated that each county will have at least two public health nurses. Future plans include a division of adult hygiene, a division of oral hygiene and other activities that have not been carried on heretofore. The midwife control and maternity and infancy work will be augmented by additional personnel. Plans are being made to bring the number of pediatric clinics, being held over the State for the physicians, up to eight or ten. These clinics serve as refresher courses for the physicians and are sponsored by the State Medical Association.

**Health Education**—Miss Elma Rood, Director of Health Education for the Tennessee Valley Authority, presented an excellent discussion on the importance of health education in the program of every health department, stressing the fact that educational work must be a part of every service or activity carried on by health workers. If the individuals and the community are to understand and cooperate with the local health departments they must be well informed along health lines.

A very valuable paper was presented by Dr. E. L. Bishop, President of the American Public Health Association, on "Staff Education for Public Health Personnel." Dr. C. C. Applewhite, of the United States Public Health Service, discussed the "Training of Personnel" and Dr. W. K. Sharp, Jr., "Community Organization for the Promotion of Health Work."

The session Monday evening was arranged for the purpose of bringing together representatives of other state departments whose work is closely related and interrelated with that of the health departments. Those representatives who were present and made short addresses were Mrs. Harry Simon, of the Child Welfare Department; Mr. Thad Holt, Director of the Alabama Relief Administration; Dr. J. A. Keller, State Superintendent of Education, and Dr. L. N. Duncan, President of Alabama Polytechnic Institute. Mr. Robert J. Goode, of the State Department of Agriculture, was unable to attend. Each spoke on the advantages and also the methods of active cooperation be-

tween the members of these departments. Dr. Keller, in stressing the necessity for cooperation between the health and educational workers, stated that "the mental and physical development of children must progress in the proper ratio in order to accomplish satisfactory and lasting results."

The Monday afternoon and Tuesday morning sessions were occupied by group conferences, the health officers, nurses and sanitation officers meeting in their respective groups; at which times round-table discussions were held on various subjects of interest to each group.

One of the keynotes of the conference seemed to be the desire for a more active cooperation with and participation by both lay and professional groups throughout the State, especially in the work of health education.

A. M. S.

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## BUREAU OF PREVENTABLE DISEASE CONTROL

D. G. Gill, M. D., Director

### PERIODICITY OF DISEASES

Diseases have been occurring since time immemorial. But it is only in recent years that their cyclic occurrence has been studied. The increased periodic prevalence of various diseases has been noted by different medical historians. They gleaned and deduced their information from the essays on diseases by physicians and numerous historical records. The oldest of the historical records, the Bible, relates the increase and decrease of different plagues and scourges that have affected mankind. The Greek, Roman and Egyptian physicians of ancient history have recorded the changing prevalence of diseases.

It was epidemics or increased prevalences that led John Snow to make his investigations of cholera and William Budd his investigations of typhoid fever. It was epidemics that led medical investigators to epidemiologically study diseases from year to year. In fact the increased occurrence of any illness that causes death, whether it be lead poisoning or plague is per se the responsible factor for any investigation.

Around 1850 to 1860 there was noted not only an increased prevalence of the various

communicable diseases, but also an increase in severity of most diseases. At about that time records of disease were begun to be kept. Inadequate as they are when compared to our records of today, still they give us the trend of communicable diseases over a period of years.

Whether all diseases occur in a regular cyclic order we do not know as yet. But we do know that some do. Measles occurs in epidemic form about every three years in the cities, and four to seven years in the rural areas. There are epidemic years of malaria, whooping cough, scarlet fever, pneumonia and influenza. Why do diseases increase in prevalence periodically? We do not know definitely, but we do know there may be one or all of three factors: (1) An increase in virulence of the organisms; (2) An increase of the susceptible population; or (3) Some factor that increases the rate of transfer of the organism from person to person. We know that animal passage of the organism in rabies increases the virulence of the organism. Each new born child increases the number of susceptibles to measles, thereby increasing the susceptible population. Water or milk becoming contaminated with the feces from a typhoid fever case would be the factor increasing the rate of transfer of the *Eberthella typhi* from person to person.

Diseases are still being studied as to their cause, mode of spread, prevalence and cyclic nature where any one or all of these factors are unknown. Epidemics are no longer necessary for a study of a particular disease. Each reported disease helps to bring this study to fruition. Each unreported disease increases the chances of spread, decreases the ability to control and oftentimes leaves us in the dark, without scientific knowledge, as we were in the 17th and 18th centuries.

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### SYPHILIS

Great strides have been made in the past few years in the treatment and probable "cure" of syphilis.

Most of us were taught to treat syphilis by the "stop and go" method for a period of three years. Little evaluation of this method was made. Only in recent years have methods of treatment and control been



studied. These studies resulted in the change from the old method of treatment by the active treatment and rest periods to one of continuous treatment for a period of one year and a half. This is especially true in early syphilis.

If any one of us should be ill and our chances of being cured were enhanced by 18% if our illness was treated early, how many of us would not demand such early treatment? Yet that is the case in early syphilis. Early syphilis with a chancre and a negative Wassermann has an 18% better chance of being cured than any other stage of the disease, providing treatment is instituted at this time and kept up for one and one-half years.

## BUREAU OF LABORATORIES

James G. McAlpine, Ph. D., Director

### SNAKES AND ANTIVENIN\*

#### 1. POISONOUS SNAKES IN ALABAMA

In the United States there are two families of snakes which are poisonous. One of these the Crotalidae, or as they are more commonly called the pit-vipers, includes a number of species, all of which are poisonous, such as the copperhead, the moccasin, and the various rattlesnakes. The other family called Elapidae, or cobras, has only one member in this country, the coral snake, and it is confined to the most southern states.

As far as Alabama is concerned, there are seven species of poisonous snakes which have been found within its borders. Placed in the order of their abundance they may be listed as follows: water moccasin, timber rattler, copperhead, diamond-back rattler, ground rattler, coral snake, and swamp rattler or massasauga. This order does not agree, as will be seen later, with the statistics for snake bite in the whole United States or in Alabama where the copperhead leads, but appears to be the experience as to the relative frequency with which they are seen.

Loding<sup>1</sup> (1922) makes the following statement: "In Alabama we have only sev-

en species to get acquainted with; six of these belong to the so-called pit vipers and have identical earmarks by which to recognize them—the broad square jaw and the overlapping head shield which forms a pit at the side of the head between the eye and the snout. The seventh is our coral snake; a beautiful creature with red and black bands separated by yellow rings. The coloration of two of our harmless snakes so closely resembles this pattern that a mistake is easily made; however, by observing the following rule you can never go wrong: in the coral or poisonous snake the red and black bands are separated by narrow yellow rings, and the snout is black; in the harmless snakes the red and yellow bands are separated by narrow black rings and the snout is yellowish."

Inasmuch as there is no antivenin available for the coral snake, it should receive special consideration. Furthermore it has none of the common characteristics of the other poisonous snakes. It is seldom more than 20 inches long and while not at all vicious, it is very poisonous. According to Loding<sup>1</sup> the coral snake has been found in Etowah, Greene, Tuscaloosa, Mobile and Baldwin Counties. Other observers have seen it elsewhere, and it has been known to occur in Montgomery. From this it will be seen that it has a rather wide distribution in Alabama.

#### 2. INCIDENCE OF SNAKE BITE

Statistics concerning the incidence of snake bite are most difficult to secure. Hutchison<sup>2</sup> (1929) emphasizes this fact and used in his report the data which had been included in the answers received from questionnaires enclosed in the packages of antivenin, and the rather inadequate information obtained from the newspapers supplied by clipping bureaus. He admits the unsatisfactory nature of the figures, saying that some of the records were "detailed, some fragmentary, some valuable, some almost worthless."

Before Hutchison, Willson<sup>3</sup> (1908) col-

\*The first of two articles on the subject. The second will appear in the October Journal.

1. Loding, H. P.: A Preliminary Catalogue of Alabama Amphibians and Reptiles, Museum Paper No. 5. Alabama Museum of Natural History. University of Alabama, 1922.

2. Hutchison, R. H.: On the Incidence of Snake Bite Poisoning in the United States and the Results of the Newer Methods of Treatment, Bull. Antivenin Inst. of America, 3: 43-57 (July) 1929.

3. Willson, P.: Snake Poisoning in the United States, Arch. Int. Med. 1: 516 (June) 1908.

lected, by an exhaustive review of the literature and other sources, 740 cases of snake bite poisoning which dated back to the year 1843. From the information at his disposal he came to the conclusions that the venomous snakes were being gradually exterminated and were not a serious menace. Moreover, he estimated that the total number of cases which occurred in any one year in the United States was probably less than 500.

Ditmars,<sup>4</sup> however, who made an intensive study of the annual incidence of snake bite poisoning in the United States, fails to agree with Willson. Being Curator of Reptiles and Mammals in the New York Zoological Garden, his knowledge of the distribution and habits of the various species of snakes was extensive. He concluded that Willson's estimate was too low and gave 1,000 cases of snake bite annually as the minimum with the probability that 150 of these were fatal.

Do Amaral<sup>5</sup> (1927), when he attempted to make definite studies on snake bite incidence, found that he could not with accuracy estimate the number of fatal or non-fatal cases which occurred in a year. He called attention to the facts that snake bite poisoning has not received serious study in any country and that mortality statistics for this would be recorded according to the International List of the Causes of Deaths under "Title 176," "Attack by Venomous Animals." So many causes would be included under this heading that proper separation would be impracticable. Confining his efforts to Texas alone, he collected records of 150 cases of snake bite poisoning occurring from July 1926 to July 1927. He did not feel on the basis of these figures that he should attempt to estimate the number of cases of snake bite poisoning occurring yearly in the United States.

In Alabama there are no accurate statistics on the incidence of snake bite poisoning. That it occurs rather frequently during the warmer months of the year is well known, but how often is only a matter of

conjecture. Mortality statistics are more valuable but because of their small number cannot be used for drawing very general conclusions. For the year 1934 six deaths are recorded under "Title 176," "Attack by Venomous Animals"; two children under 30 days old died from spider bites, three under five years of age from snake bites and one over five years from probable snake bite. The fact that all of these except one were under five years was a coincidence for 1934, because inspection of the data for other years fails to show the same phenomenon. In 1933 there are listed under this heading three deaths and in 1932 five deaths. Therefore, it will be seen that snake bite poisoning as a cause of death has relatively little importance in this State.

Probably the data collected by Hutchison<sup>2</sup> (1929) are the most complete. For the year 1928 he had access to 359 case reports from the files of the Antivenin Institute and 247 more from newspapers, and of these 458 had sufficient information to identify the snake "with a fair degree of accuracy." In a second report he<sup>6</sup> (1930) followed the same method of securing information and amassed a total of 482 reports from which the species of snake in 77 instances could not be determined. Combining the figures in the two reports, the relative frequency in which the various species are implicated is shown in Table I.

TABLE I  
North American Poisonous Snakes As Agents In  
Snake Bite Poisoning

	1928	1929
The Copperhead ( <i>Agkistrodon mokasen</i> )*	171	137
The Texas Rattler ( <i>Crotalus atrox</i> )	100	94
The Cotton-Mouth Moccasin ( <i>Agkistrodon piscivorus</i> )*	43	39
The Banded Rattler ( <i>Crotalus horridus</i> )*	43	31
The Prairie Rattler ( <i>Crotalus confluentus</i> )	37	64
The Pacific Rattler ( <i>Crotalus oregonus</i> )	27	
The Ground or Pigmy Rattler ( <i>Sistrurus miliarius</i> )*	18	22
The Eastern Diamond-Back Rattler ( <i>Crotalus adamanteus</i> )*	12	14
The Sidewinder ( <i>Crotalus cerastes</i> )	5	2
The Swamp Rattler or Massasauga ( <i>Sistrurus catenatus</i> )	2	2

\*Indicates species found in Alabama.

The copperhead as a single species accounts for the largest number of bites, but

4. Ditmars, R. L.: Cited by Hutchison. Vide supra.

5. Do Amaral, A.: The Anti-Snake Bite Campaign in Texas and in the Subtropical United States, Bull. Antivenin Inst. of America, 1: 77 (October) 1927.

6. Hutchison, R. H.: Further Notes on the Incidence of Snake Bite Poisoning in the United States, Bull. Antivenin Inst. of America, 4: 40-43 (September) 1930.



when the importance of the different species as agents in causing death is considered, the picture is changed. Table 2 is taken from Hutchison's article published in 1930.

TABLE II

North American Poisonous Snakes In The Order Of Their Importance As Agents In Causing Death

	1928	1929
The Texas Rattler ( <i>Crotalus atrox</i> ).....	4	10
The Banded Rattler ( <i>Crotalus horridus</i> ).....	4	5
The Prairie Rattler ( <i>Crotalus confluentus</i> ).....	7	1
The Cotton-Mouth Moccasin ( <i>Agkistrodon piscivorus</i> ).....	1	4
The Eastern Diamond-Back Rattler ( <i>Crotalus adamanteus</i> ).....	0	3
The Sidewinder ( <i>Crotalus cerastes</i> ).....	1	0

It will be noted from this that not a single death was reported as occurring from the bite of the copperhead.

Hutchison<sup>5</sup> (1929) divided the United States into four regions and in tables showed the regional distribution of species inflicting bites. The table for the Southeastern and Gulf States is reproduced as Table 3.

TABLE III

Snake Bite Reports, 1928. Regional Distribution By Species

Southeastern and Gulf States	Copperhead	Cotton-Mouth Moccasin	Ground or Pigmy Rattler	Banded Rattler	Eastern Diamond-Back Rattler	Rattlesnake, Sp. ?	Undetermined Species
Virginia.....	17			3			4
West Virginia.....	14						1
Kentucky.....	2					*1	
Tennessee.....	4		1	2			1
North Carolina.....	9	1		7		4	2
South Carolina.....	6			4	1	1	
Georgia.....	3	4	1	3	2	9	9
Florida.....		7	7	1	8	2	3
Alabama.....	13	12	4	1		16	3
Mississippi.....	2	3	3	1	1		**7
Missouri.....	6	1					1
Arkansas.....	5	1	1	3		4	3
Louisiana.....		6				3	**5

\*In carnival collection—probably *C. atrox* (Texas Rattler)

\*\*One coral snake

The interesting features of this table as far as Alabama is concerned are: (1) the frequency with which the copperhead and cotton-mouth moccasin appeared to bite; and (2) the greater incidence of snake bite poisoning in Alabama than in the neighboring states. However, Hutchison explains the latter by saying that a great factor influencing the number of reports was "the interest and activity of the State and local Boards of Health." The figures given above

are for the year 1928 and during that period the Alabama State Department of Health distributed antivenin. Due to the efforts of the local health officers it is most probable that a majority of the questionnaires which were enclosed in the packages of serum were returned.

## BUREAU OF VITAL STATISTICS

Leonard V. Phelps, Director

### MORTALITY FROM POLIOMYELITIS

Poliomyelitis is not a major cause of morbidity or mortality in Alabama, or in any of the states of the extreme South. The incidence of this disease seldom reaches a high figure except in the northern states. It is worth while, however, to consider what our experience has been.

For the past nine years the annual number of cases has averaged approximately fifty. The average annual number of deaths for the quinquennial period (1930-1934) was fifteen. Of the seventy-four deaths, fifty-three, or seventy-two per cent, were white and the remaining twenty-one, or twenty-eight per cent, colored.

Forty-three, or about fifty-eight per cent, were males and thirty-one, or forty-two per cent, were females. The tabulation of deaths according to age (1930-1934) shows that sixty-two, or eighty-four per cent, occurred among children under fifteen years of age and that the maximum number of deaths were in the age group (1-4) years.

It is of interest to note that fourteen, or approximately nineteen per cent, of the deaths were of infants under one year.

In the distribution of deaths according to month, there is no noticeable peak reached in the fall months as there is in the case incidence.

Number Of Deaths From Poliomyelitis According To Color, Month And Year: Alabama, 1930-1934

Year	Total	Sub-total	Color	MONTH											
				Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1930.....	22	17	W	1	1	3		1	2	1	2	4	1	1	
		5	C	1			2							1	1
1931.....	22	10	W		2			1	1	1	1		2		2
		12	C			4	1	2	1	1		2	1		
1932.....	7	7	W	1					2				2		1
			C												
1933.....	10	8	W				2	1		1	1	2			1
		2	C				2								
1934.....	13	10	W			2			1		2	2	1		2
		3	C	1				1	1						
1930-1934.....	74			4	3	11	6	6	8	4	6	10	7	2	7

Number Of Deaths From Poliomyelitis According to Age, Sex, Color And Year: Alabama, 1930-1934

YEAR	Grand Total	Sub-Total	Color	Sex	AGE								
					Under 1 yr.	1-4 yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-34 yrs.	35-44 yrs.	45 yrs. & over
1930	22	17	W	M	3	4	2				1		
		5	C	F	1	5	1			1			
				M		1		1				1	
				F									
1931	22	11	W	M	1	1	2		2				1
				F	1	1		1		1			
		11	C	M	1	2	1	2			1		
				F		1	2	1					
1932	7	7	W	M	1			1					1
				F	1	2	1						
		0	C	M									
				F									
1933	10	8	W	M	1	2		1					1
				F		1	2						
		2	C	M	1	1							
				F									
1934	13	10	W	M	1	4							
				F	1	2		2					
		3	C	M			1						
				F	1						1		
1930-1934	74				14	27	12	9	3	2	3	2	2

## BUREAU OF SANITATION

G. H. Hazlehurst, Director

CRABMEAT PICKING AND PACKING  
REGULATIONS

The State Committee of Public Health, at its meeting on June 24th, adopted Regulations Governing the Preparing, Picking, and Packing of Crabmeat and Shrimp, which became effective on July 1, 1935.

Unlike oysters, which are immobile in their habitat and are forced to sustain themselves as well as possible upon what comes their way as a result of currents and tides, crabs travel considerable distances in search of food and to avoid extremes of fresh or salt water. Because oysters do not move, they may become infected by sewage-polluted water, and this pollution may be present in their stomach contents and shell liquor when they are opened. For this reason, observation and regular examination of the waters from which oysters are taken, or in which they are "floated," is probably the most important phase of the protection of the public health against oyster-borne disease. There is, of course, a certain degree of possibility that oyster meats might become infected as a result of human contact during the opening or packing process, but this is comparatively slight.

Crabs move freely; therefore, any restrictions upon the bacterial content of the waters from which they are taken are im-

possible. Furthermore, crabs are cooked before they are picked, and only the muscular tissue is eaten. Therefore, the nature of the food they have eaten and the water they have drunk and breathed can have little ultimate effect upon customers.

The principal difference between crabmeat and oyster meats, with respect to danger to consumers, lies in the greater susceptibility of the crabmeat to infection during and following the picking operation. Flies are rarely seen around oyster shuckeries, and very rarely is one seen to alight upon an oyster meat. Most crab picking takes place in warm weather, and the refuse from the picking operations is especially attractive to flies. Unless the picking operation is conducted in a screened space, prevention of fly contamination of the meat is impossible. Furthermore, in the picking of crabmeat the contact of the fingers with the meat is far more intimate and frequent than is the case in oyster opening. It is also quite probable that more packed crabmeat is consumed in the form of cocktails and salads, without further cooking, than packed oysters are eaten raw and in cocktail. Consequently, the comparatively greater public health menace in carelessly picked crabmeat is obvious.

The volume of the crabmeat business in this State is not generally appreciated. A recent survey indicates that in excess of 500 pounds of packed crabmeat is sold in



Mobile alone each week; on good days as much as 1,000 pounds of meat is packed on the Mobile County coast.

The regulations prescribe that crab pickeries be of substantial construction, effectively screened, well lighted and well ventilated, and provided with protected water supplies and sanitary human waste disposal. Picking tables must be metal covered. Facilities for handwashing must be provided. Refrigeration must be provided.

When a pickery meets the requirements of the regulations, a numbered certificate is issued to the operator, and this certificate number is stamped or embossed upon every can of crabmeat packed in that pickery. The department is fortunate to supplement the services of its regular inspectors in having the services of three "white-collar" workers from the relief roll, two on the coast and one in Mobile, who watch for surreptitious picking operations, or the purchase by certified packers of crabmeat picked elsewhere than in certified pickerries.

Although but a short time has elapsed since these regulations became effective, seventeen crabmeat pickerries have been certified and the effect upon the industry has been pronounced. Crabbers and packers are well pleased because outlaw competition is curbed and dealers claim that the keeping quality of the meat is markedly enhanced.

Crabmeat users should insist upon a certified pack, which can always be identified by the number on the can, such as "ALA. NO. 1, Season 1934-1935." Stamps will be changed during September and will thereafter bear the legend "Season 1935-36."

C. A. A.

**The Private Physician in a Public Health Program**—Almost without exception, the men who have done most in developing the health departments to their present state of efficiency have been physicians. Bacteriologists, physicists, chemists, nurses, and research workers who were not physicians, however, have discovered many facts in preventive medicine, but it was the physician acting as health officer who applied this knowledge and developed the system of wholesale preventive medicine which is the main objective of health departments.—*Milne, South. M. J., Sept. '35.*

## CURRENT STATISTICS

### \*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

	June	July	Estimated Expectancy July
Typhoid	94	107	151
Typhus	34	44	9
Malaria	897	1108	417
Smallpox	2	0	22
Measles	335	63	133
Scarlet fever	30	42	39
Whooping cough	145	87	169
Diphtheria	38	82	46
Influenza	98	40	22
Mumps	85	30	21
Polioyelitis	10	15	4
Encephalitis	5	0	2
Chickenpox	44	9	18
Tetanus	6	8	5
Tuberculosis	362	273	373
Pellagra	148	89	128
Meningitis	6	4	4
Pneumonia	144	59	66
Syphilis	922	691	189
Chancroid	7	13	8
Gonorrhea	384	357	193
Ophthalmia neonatorum	1	4	2
Trachoma	3	0	0
Tularemia	0	1	0
Undulant fever	5	10	2
Dengue	8	63	0
Amebic dysentery	6	3	0
Rabies—Human cases	0	0	0
Positive animal heads	59	74	

\*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years. With the venereal diseases, clinic cases were not included prior to this year.

## Truth About Medicines

### PROPAGANDA FOR REFORM

**Sulphur Therapy.**—Much has been written concerning the wide therapeutic value of sulphur, but its use in widely different fields suggests that the theoretical basis of sulphur medication is largely empirical. As a result, the many beneficial results attending the administration of sulphur have been accompanied by a certain proportion of unfavorable prognoses. For example, the failure to observe aseptic precautions during intramuscular administration of preparations of sulphur in oil has frequently led to periostitis; in some instances the dangers of an oil embolism have been encountered. Notwithstanding these difficulties, injections of sulphur in oil have been widely employed within recent years in the treatment of a variety of conditions. Preparations of sulphur in oil have been used in the treatment of dementia paralytica and certain other nervous and mental disorders. Recently, a study of a series of twenty-three cases of dementia praecox treated

with a preparation of sulphur in oil gave slight indications of improvement, although it was difficult to distinguish between therapeutic improvement and spontaneous amelioration. One of the most characteristic effects of the sulphur injections appears to be a leukocytosis which has been demonstrated to be due to an increase in polymorphonuclear cells. Probably the most beneficial results of sulphur therapy have been claimed in dermatology. This is particularly true with the advent of new preparations. Interesting comparisons have been made between the therapeutic value of colloidal sulphur and that of other forms of sulphur therapy. The application of this element in colloidal form was of no value for cutaneous conditions that in the past have not responded to other types of sulphur treatment. However, colloidal sulphur seemed to produce improvement in many instances in seborrhea, seborrheic dermatitis, acne rosacea, acne vulgaris and dermatomycosis. It has proved to be of value when applied as wet dressings in cases of subacute eczema and dermatomycosis. Certain types of fungous infections, for example ringworm of the feet, responded well to colloidal sulphur therapy. The latter treatment was, however, of little value in scabies, psoriasis or instances of pyogenic infections. These results, together with cases reported by other investigators, may stimulate the use of sulphur as a therapeutic agent in dermatology. Sulphur in the colloidal form should be employed in much lower concentrations than those used for other forms of sulphur. It is generally advisable to use the material in less than a 5 per cent solution. All preparations should be clear, free from an odor of hydrogen sulphide, of a pH of approximately 5.0, and correctly standardized as to sulphur content. (J. A. M. A., August 3, 1935, p. 371.)

**Progynon-B and the Ovarian Follicular Hormone.**—The Council on Pharmacy and Chemistry reports that recently MacCorquodale, Thayer and Doisy of St. Louis University reported the isolation in crystalline form of an estrogenic substance from the follicular fluid of hog ovaries. Estrogenic compounds previously isolated, such as theelin and theelol, had been obtained from other sources, in particular the urine

of pregnant women; a pure estrogenic preparation had not before been isolated from the ovary itself. Consequently, the actual constitution of the ovarian follicular hormone or hormones was not known. MacCorquodale, Thayer and Doisy reported that the crystalline product obtained by them from follicular fluid had approximately the same estrogenic potency as dihydroxyestrin (theelin is ketohydroxyestrin and theelol is trihydroxyestrin), that is, from four to eight times the activity of theelin. It appears from the preliminary report of these investigators that the only evidence at present available for considering the crystalline preparation from ovarian follicular fluid to be identical with dihydroxyestrin is the similarity of the estrogenic activity and of the melting points. This, of course, does not constitute proof from a chemical standpoint of the identity of the two preparations. Despite the paucity of the evidence at present available, the Schering Corporation has made claims in its recent advertising literature that Progynon-B (said to be the benzoate of dihydroxyestrin, which the firm calls "benzoic acid ester of dihydrofollicular hormone") is the "true female sex hormone, as was definitely proved by Doisy . . ." Inquiry was made of Dr. Doisy as to the status of the preparations concerned. According to Dr. Doisy there is no definite evidence regarding the nature of the estrogenic substances of human ovaries. In Dr. Doisy's opinion the Schering claim of greater activity seems to be sound but has little significance. Dr. Doisy states further: "The claim of a synthetic compound is certainly not warranted, since the dihydro compound is prepared from the ketohydroxy compound by reduction of the carbonyl group. In other words, the chemist starts with the conjugated ring structure containing all the substituents in the correct position. Such a reaction does not correspond to the usual conception of synthesis." The advertising claims of the Schering Corporation for Progynon-B are therefore inaccurate and misleading. The Council voted that this report be published to correct the erroneous impressions created by the reprehensible advertising policy of this firm. (J. A. M. A., August 31, 1935, p. 676.)



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### SOME LESSER KNOWN MANIFESTATIONS OF ALLERGY\*

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Physicians interested in allergy have been accused so persistently of radicalism or overenthusiasm in regard to their pet field that many have leaned over backwards, so to speak, in their attempt to avoid the charge. The time has now come when overconservativeness and weak-kneedness are indistinguishable.

For a number of years the leaders in the field of allergy have pointed out the role played by this affection in producing the symptom-complexes of eczema, migraine, chronic gastro-intestinal disturbances, perianal itching and other manifestations.

The number of contributions to the literature of this field are too numerous to mention in a paper of this type. Vaughan,<sup>1</sup> Rowe,<sup>2</sup> Balyeat,<sup>3</sup> Coca<sup>4</sup> and others have written very excellent books on various phases of the subject of allergy—all well worth the cost, and the time necessary for reading by anyone who wishes to keep abreast of developments. Most of these books also have very full bibliographies through which any one interested can find the many contributions in the widely scattered literature.

\*Read before the Association in annual session, Mobile, April 17, 1935.

1. Allergy and Applied Immunology, by Warren T. Vaughan. The C. V. Mosby Co., Publishers.

2. Food Allergy: Its Manifestations, Diagnosis and Treatment, by Albert H. Rowe. Lea and Febiger, Publishers.

3. Allergic Diseases: Their Diagnosis and Treatment, by Ray M. Balyeat. F. A. Davis Company, Publishers.

4. Asthma and Hay-Fever in Theory and Practice, by Arthur F. Coca, et al. Charles C. Thomas, Publisher.

In trying to decide how best to present the facts which I had in mind it was suggested to me that a study of a definite number of cases might best serve the purpose. I took, therefore, the last one hundred cases seen in my office previous to February 1, 1935. No effort was made to select or to pick out any type. The cases were tabulated just as they had come in.

In this group of 100 unselected cases, the following complaints were found:

Asthma .....	53
Hay-Fever .....	51
Urticaria .....	19
Eczema .....	9
Gastro-Intestinal Disorders .....	7
Migraine .....	4
Acne .....	3
Conjunctivitis .....	3

This makes a total of 149 complaints in 100 cases.

Most of us are of the opinion that the majority of allergic people have more than one allergic manifestation. In these one hundred cases only one manifestation could be elicited in fifty-seven, divided as follows:

Asthma .....	20
Hay-Fever .....	15
Urticaria .....	15
Eczema .....	4
Migraine .....	1
Gastro-Intestinal Disorders .....	1
Acne .....	1
Total .....	57

One explanation of the discrepancy between these 100 cases and the general experience is that they were all comparatively recent. There were a good many children in the number. If this same series were retabulated five or ten years hence, a much smaller number with only one complaint would be found.

I want to say also, in further explanation of these tables, that under hay-fever I have

included so-called vasomotor rhinitis—the only difference between the two being that the vasomotor rhinitis cases are the ones which do not sneeze. I do not feel that the presence or absence of the one symptom of sneezing is valid reason for a differentiation into two different complaints. A better classification, to my mind, would be allergic rhinitis.

Under urticaria I have included angio-neurotic edema which I believe to be merely a different grade of severity of the same process. Under migraine I included all allergic headaches whether they had the other characteristics of migraine or not. The older terms become fixed in our consciousness in connection with certain symptom-complexes and it is much easier to bow to custom than it is to try to coin new terms.

Of the forty-three cases with more than one complaint, there were the following combinations: Asthma and hay-fever was by far the most common grouping. It was found in 26 cases. Asthma, hay-fever and eczema existed in two cases. There were fifteen other combinations of the various allergic complexes.

The old triad of asthma, hay-fever and urticaria has become so fixed in the minds of the profession in connection with allergy that many have overlooked the fact that allergy is the underlying cause of many other symptom-complexes as well. If we will think of allergy as a constitutional disease affecting epithelial and mucous membrane tissues, wherever these may be found in the body, then we will realize the reason for the protean character of this affection. The object of this paper is to show some, if not all, of these lesser known manifestations of allergy.

Before starting on that discussion, however, let me make an observation: I was struck by the fact that in the one hundred cases, all seen within less than a year's time, there had been three deaths. This is such an unusually high mortality rate I want to discuss these deaths first.

The first of the three occurred in an infant eight months old who was brought in for a very extensive and extreme eczema. He had asthma also and his mother said he vomited after most feedings. My diagnosis was eczema, asthma and gastro-intestinal allergy. The baby reacted to almost all

tests tried, the largest reactions being to milk and egg, though with many other foods the reaction was almost as large. We tried various diets with some apparent benefit. He died in convulsions which I believe were brought on by the gastro-intestinal allergy, but I did not see him at the time.

The second death was in an old man of 70 years with asthma of about three years' standing. He gave few reactions and was not benefited by treatment. His attacks became progressively more severe, in spite of all measures tried, until his death.

The third death was a man of 57 years with history of asthma and hay-fever since childhood. When he came in he had high blood pressure, very hard arteries, extensive edema, much emphysema and a very much overburdened heart. He died suddenly while not suffering unusually from asthma.

To sum up the three deaths: Two were directly due to allergy, while the third was caused by a cardiac complication and not chargeable altogether to the allergy. It is difficult to say what part the asthma may have played in the fatal termination.

There were nine cases of eczema in the original 100. Of these, five came in primarily to be treated for eczema; four of the five had no other allergic manifestation while the fifth exhibited a combination of asthma and gastro-intestinal upsets. This last was the infant whose death was described above. Of the other cases, eczema was combined with asthma and hay-fever in two, with asthma and migraine in one, and with hay-fever and conjunctivitis in the other.

Time will not permit of detailed discussions of cases in this paper but these eczemas were not of any particular type or distribution. Most were dry, diffuse dermatitis cases of irregular distribution. None was definitely limited to any particular part of the body and none was ascribed to contact irritation. In my experience contact dermatitis has been extremely rare.

In eight of these nine cases of eczema, milk was considered a primary factor in the causation; in one, egg was also of first importance. The ninth case was sensitive to pollens, house dust and orris root, all of which I considered of importance.



Of the food reactions in these nine cases, milk reacted in eight. Cereals reacted in seven, tomato in six, bean-pea family, spinach and shell fish each five, squash and fish four each, berries and tea each three, while there were twenty-two other foods which reacted one or two times each. Of the inhalant reactions, in the whole nine cases feathers reacted in seven, house dust in six, tobacco and animal hairs in five each, flaxseed in four, orris root, cottonseed and kapok in two each and wool in one. Four gave reactions to various pollens and one of these was a case of eczema alone.

Treatment of these cases consisted of instructions for avoidance of all reactors and discontinuance of the foods. Four had hypodermic treatment with one of the milk proteins alone. These were the four with eczema alone. Of those in which the eczema occurred with other syndromes, one had house dust alone, two had house dust and milk, one had pollen, house dust and orris root, while the baby who died had no hypodermic treatments. We were considering the administration of hypodermic injections at the time of his death.

As to results, one member of this group died, thus giving us one zero, while to date I believe we could claim 75% improvement in the other eight as a group. Several are completely relieved while the others all admit a great deal of benefit. Just how permanent this result is can only be told after several years of observation. Some of these will have recurrences on resumption of the use of the foods to which they react but some will be able to take those foods without further symptoms after a period of abstinence. Also, I was lucky in that none of the cases claiming complete failure occurred in this group. I must admit, however, that I have that kind also.

There were seven cases in the 100 with gastro-intestinal complaint. Of these seven, four came primarily for relief of stomach trouble. In all but one, the stomach trouble was in conjunction with one or more other allergic manifestations. The combinations were hay-fever, urticaria and g-i, asthma and g-i, migraine and g-i, urticaria and g-i, asthma, eczema and g-i, hay-fever and g-i and one case of gastro-intestinal trouble alone.

The baby, whose case with fatal termination has already been described, was in this group. The others had all suffered many things at the hands of many physicians. Two had had appendices removed, one had had gallbladder and appendix and one had had genital organs and appendix removed. Only two beside the infant had escaped operations and from what I have been told an operation was being considered for the infant at the time of its death. The general story was that they had been better for a short while after the operation and then the trouble had returned about as before.

The most frequent complaints in this series were sour stomach with nausea and vomiting of acid material, spells of colicky pains centering around the navel; and constipation. Only one of this group had spells of diarrhea with mucus stools. She had also had some bloody stools.

The protein reactions in this group were as follows: Milk reacted in all seven cases, one or more of the cereals reacted in all seven divided as follows: Corn five, barley four, rice two, rye two, wheat one. Of the vegetables, tomato reacted in all seven, the bean-pea group and eggplant reacted in three each while spinach reacted in six; chocolate reacted in six; egg, the shell fishes, beef and chicken each reacted in two; of the inhalants, tobacco and animal hairs reacted in five each; flaxseed and cottonseed four each; house dust, feathers and kapok each reacted in three cases, and wool in one. Only two of this group reacted to pollens.

Differential points in diagnosis of gastro-intestinal allergy are a history of other allergic manifestations in the patient or the immediate family, chronicity (all allergic manifestations are chronic), absence of fever and frequently increased eosinophile count. Many of these patients know that certain foods affect them and any one with food idiosyncrasies is allergic.

In the matter of treatment most of the cases which I have ever definitely classified as gastro-intestinal allergy have had so much stomach medication that I have almost universally confined my treatment to the constitutional state rather than to the local condition. All are instructed about avoidance of the foods particularly and

then given hypodermic treatments for one or two of the most probable allergens.

As regards the other allergic manifestations listed here, in all the four listed as migraine the headache was of primary importance in bringing the patient for treatment. In one case no other allergic manifestation could be found while in the others one had urticaria and headache, one had gastro-intestinal upsets and headache and the fourth had asthma, eczema and headaches.

As to the three listed as acne, two were young men in whom no other evidences of allergy were manifest. One was a young woman with asthma, hay-fever and acne. The two young men have both had fair degrees of benefit by mere dietary regimen although both live in boarding houses where dieting is difficult, to say the least. A number of other cases in this series have had mild grades of acne in conjunction with other allergic symptoms but were not included here as the acne was not sufficiently troublesome to cause any discomfort.

Three cases came primarily for red, itching and swollen eyes and are listed as conjunctivitis. Of course, practically all cases of seasonal hay-fever have some degree of conjunctivitis but in these cases the eye symptoms and signs completely overshadowed all other symptoms. One of these cases has hay-fever, eczema and conjunctivitis. One has hay-fever symptoms and conjunctivitis caused by foods and the third has mild asthma with the conjunctivitis and is sensitive to several allergens in all the groups.

In the one hundred original cases there were several with symptoms of polyarthritides and several with histories of spells of perianal itching. One of the conjunctivitis cases said he had had a number of spells of very annoying perianal itching in the past which he believes now were allergic in origin. None of these symptoms have received enough study to be definitely included in this series but are merely mentioned here to suggest possibilities.

The symptom-complexes of allergy, wherever the local lesions can be seen, seem produced by areas of inflammation accompanied by edema. This is true of hay-fever and urticaria and probably the same thing

happens in the bronchial tubes in asthma. The allergic dermatitis cases seem the exception to this rule. They are local inflammation without edema. In migraine I believe that localized areas of edema in the brain tissue itself explain the symptoms. If one will revert to his embryology, one will recall that the brain originates from a fold or groove in the ectodermal layer of the embryo. This is the layer from which the skin also comes and hence the brain and skin are related tissues. Some have supposed that the meninges were the site of the lesions but the meninges are mesodermal in origin and hence are related to and composed of connective tissue. This is the type of tissue least, if at all, affected by allergic inflammation.

The treatment of allergy theoretically is the same no matter where the site of the primary manifestation may be. It consists in avoidance of contact with all the inhalants to which the patient is sensitive, elimination from the diet of all foods which react, and hypodermic treatments in an attempt to desensitize or hyposensitize against the allergens considered most important in the particular case.

In seasonal hay-fever and asthma, pollens are of course of primary importance but even in these cases, in many instances, best results can be obtained only by avoidance of other inhalant allergens and elimination of food allergens from the diet during the hay-fever season.

Foods are of primary importance in most of the skin conditions, in the headaches and gastro-intestinal upsets, but theoretically we know of no reason why any allergen to which the patient is sensitive may not be of primary importance in causing any type of allergic manifestation. In many cases by trial and error it can be determined that some of the reactors are of most importance and others little or not at all. My own practice is to eliminate all or as many as possible until disappearance of symptoms and then resume them one at a time until recurrences point to chief offenders. In determining what the chief offenders are, I depend most on skin tests and only resort to trial diets when the skin tests fail to show the way in as complete degree as desired. My own attitude has always been that patients come to physicians to know



what is causing their symptoms and not in an effort to have some one guess for them. The time spent in talking to a patient and trying to guess can much better be spent in making tests and finding what allergens actually do react. The reactions coupled with a knowledge of the family relationships of the foods as worked out for us by Vaughan will often give the key to the question of what to use in the trial diets.

Finally, it may be of interest to show in a table just what immunizing treatments have actually been used in my office in these cases. The first row will show the solutions used in the 100 unselected cases of all varieties of allergy; the second row will show the treatment solutions used in the 22 cases showing the 26 lesser known allergic manifestations.

	100 unselected		22 selected	
House dust		46		7 or 32%
Milk		42		15 or 68%
Pollens		18		3 or 44%
Ragweed	13		1	
Grass	3		1	
Trees*	5	21	2	4
No treatment		11		3 or 14%

\*Hickory, oak or elm.

From the facts and figures presented here I would conclude that allergy does not threaten nor conflict with any other specialty in medicine but that when properly used will supplement and assist practically all branches of the healing art.

#### DISCUSSION

*Dr. C. A. Grote (Huntsville):* All of us have come to believe—some of us have had to have it knocked into our heads—that there are a large number of diseases which should be classified as allergy. To my mind it is a wonderful field, one about which we know so little that research in years to come should open up a wide realm of thought.

Another thing that impresses me is this: We, in general practice, get so busy with a multitude of procedures that we lack that exactness necessary for results approaching those procured by specialists in allergy. In my own work I am thoroughly convinced, after having made many failures with food and other tests, that lack of observance of minute details accounts for poor results. In contrast, those who specialize in this work succeed by reason of the delicate attention they pay technic in treating allergic diseases.

*Dr. T. K. Lewis (Birmingham):* I would like to discuss this very interesting paper of Dr. Davidson's. Dr. Kilpatrick spoke of paroxysmal tachy-

cardia as an allergic or hypersensitive condition. Several authors have advocated this theory as a possible explanation of some cases of paroxysmal tachycardias; e. g., the auricular and nodal tachycardias, and perhaps some cases of extra-systole. In my practice, I have seen some patients with rather distressing gastro-intestinal symptoms and extra-systoles who were relieved of the extra-systoles when the gastro-intestinal symptoms had been corrected by diet.

Dr. Davidson reported the case of the old gentleman who had an asthmatic condition and died from cardiac asthma. I would like to suggest that in elderly people it is very necessary to differentiate between bronchial asthma and cardiac asthma. The treatment is entirely different. In bronchial asthma adrenalin is the one drug that will certainly give quickest and greatest relief. On the other hand, in cardiac asthma, especially in elderly people, adrenalin may result in a fatality—certainly if given in a dose above 2 or 3 minims. Adrenalin is a very dangerous drug to give in cardiac conditions unless one is definitely certain of the underlying pathology. In cardiac asthma morphine is the most useful drug. It will give graphic relief, while adrenalin, if used in any size dose above 2 or 3 minims or repeated will most certainly mean a fatality.

#### MINOR ALLERGIC MANIFESTATIONS\*

By  
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The importance of Dr. Davidson's paper cannot be overestimated. The field of allergy is no longer limited to hay-fever, vasomotor rhinitis and asthma, but includes also several less important symptom-complexes—urticaria, angioneurotic edema, eczema, gastro-intestinal allergy, migraine, vernal conjunctivitis, epileptiform convulsions, Henoch's purpura, canker sores, enuresis and possibly others. The profession, in general, has failed to realize the importance of allergy in explaining this latter group of syndromes, and it has, therefore, failed to give relief to certain patients who might have been relieved by thorough allergic investigations. I do not wish to give the impression that every case of convulsions, migraine, or eczema is due to hypersensitivity, but rather that a certain proportion of each of these syndromes is due to allergy and can be relieved by allergic methods only.

\*This is an expansion of a discussion of the foregoing paper delivered by Dr. Marion Davidson to the Association in annual session, Mobile, April 17, 1935.

Dr. Davidson has presented a series of one hundred unselected cases of allergy. I have recently been analyzing a series of one hundred cases of hay-fever and vasomotor rhinitis and am presenting a table showing the incidence of the various minor manifestations of allergy in my series as compared with that of Dr. Davidson.

Table 1

	100 Cases of Hay-Fever Weil	100 Unse- lected Cases Davidson
Urticaria and angioneu- rotic edema .....	16	19
Eczema .....	8	9
Canker sores .....	2	0
Gastro-intestinal allergy.....	0	7
Migraine .....	4	4
Pollen enuresis .....	1	0
Serum sickness .....	2	0
Acne .....	0	3
Conjunctivitis .....	0	3
Total .....	33	45

In my opinion, these figures are quite comparable, considering the fact that one group of patients complained primarily of hay-fever, while, in the other group, about one-fourth consulted the physician for other allergic manifestations. The incidence of eczema, urticaria, and migraine is almost identical in the two series.

Since there were too few cases of canker sores, gastro-intestinal allergy, pollen enuresis, serum sickness, acne and conjunctivitis in my series, I am limiting my discussion to urticaria, eczema, and migraine.

*Urticaria*—Of the sixteen cases of urticaria in this series, the cause was not determined in eight. This does not necessarily mean that these cases were not allergic and that the cause could not be determined, but rather that the individual did not consider the complaint of urticaria sufficiently serious to justify detailed study of the cause of that complaint. Of the cases in which an explanation of urticaria was found, the causes were as follows:

Milk .....	1
Egg .....	1
Strawberries .....	1
Peach and milk .....	1
Watermelon, cucumber and cantaloup.....	1
Foods .....	1
Quinine .....	1
Ephedrine .....	1

In another group of eight cases with urticaria as the chief complaint, the cause was not determined in six cases. Of the remaining two cases, in one, milk gave a slight reaction on skin testing, but proved positively to be the cause of symptoms as the result of elimination followed later by addition to the diet. In the other case, cantaloup, tomato, peaches, and strawberries were suspected, but eating these foods in any quantity would not produce the urticaria.

Various investigators who have reported studies on large series of urticaria have come to very different conclusions. Balyeat, in a rather extensive experience, claimed positive skin tests in 100% of his cases, foods being responsible for all. Rackeman, in a series of thirty-five cases, found the skin reactions usually negative. Engman and Wander found positive skin tests in seventy per cent of their series. The following three series will give a good idea of the different experiences of three careful investigators.

Rowe	28 cases
Food alone .....	46%
Food total .....	57%
Animal emanations .....	14%
House dust .....	11%
Pollens .....	7%
Menagh	360 cases
Protein allergy .....	30%
Biliary disease .....	49%
Both .....	11%
Undetermined .....	10%
Gay	170 cases
Focal infection .....	30%
Allergy .....	20%
Psychogenic .....	18%
Endocrine .....	5%
Undetermined .....	25%

Almost any food can cause urticaria—milk, wheat, and eggs being the most frequent offenders. Drug allergy is by no means uncommon. Quinine, ephedrine, insulin, aspirin, emetine, belladonna, cinchophen, and phenolphthalein are the most frequent causes. The focus of infection may be the teeth, tonsils, gallbladder or sinuses. From my own experience, and that of several large series of cases, it would seem that allergy plays an important, though not exclusive, role in the production of urticaria.

*Eczema*—Of the nine cases of eczema, the causes were as follows:



Ragweed pollen .....	2
Toilet water .....	1
Face powder .....	1
Ephedrine, locally .....	1
Iodine, locally .....	1
Undetermined .....	3

Of six patients whose chief complaint was eczema the cause was determined in four: sulphur ointment, O-Cedar polish, shaving soap, and dahlia bulbs were the causes.

Of the nine cases of eczema in which the cause could be determined, all were due to contact, the ingestion of food playing no part. This is an entirely different type of eczema than that described by Dr. Davidson, his cases being allergic dermatitis while mine were contact eczema. In allergic dermatitis, the individual generally gives a family history of allergy, and a history of other allergic manifestations and may show a high per cent of eosinophiles in the blood count. The responsible protein may be determined by skin testing or elimination diet. Foods or inhalants may be responsible for cases of this type. This type of eczema is frequently found in children. The individual with contact eczema is not allergic and does not react on skin testing with foods and inhalants. In this type of eczema, the patch test is the only means of determining the cause. Among substances causing this type of dermatitis may be mentioned lacquer, soaps, rubber, cement, formalin, leather, adhesive, resin, animal hairs, perfumes, hair dyes, hair lotions, insect sprays, rotogravure ink and poison ivy.

*Migraine*—Migraine is limited in this discussion to a familial type of headache, usually unilateral, accompanied frequently by nausea and vomiting, and preceded by vertigo or visual disturbances or both. This type of migraine has frequently been ascribed to food sensitization. Balyeat, in a large series of cases, found positive skin tests in 90%. Milk, wheat, egg, apple, onion, beans, peas, nuts, chocolate, beef, fish and shell-fish are the most frequent causes. Degow, in a report of sixty cases, found animal emanations and inhalants responsible for a small percentage. Rowe considers skin tests on the whole unsatisfactory, but by means of his elimination diets, he obtained good results in 73% of his 130 cases.

Alvarez of the Mayo Clinic doubts the important role of food allergy in the production of migraine. Focal infection and emotional strain may play an important part and it is well recognized that many of these headaches bear a definite relation to the menstrual cycle.

There is another type of headache which results from the pressure of the nasal mucous membrane which is swollen as a result of hay-fever. The pain, in this type of headache, is usually located in the eyes or frontal region. It is a frequent accompaniment of hay-fever and is due to the same cause as the hay-fever.

The one outstanding difference in the experiences of Dr. Davidson and myself is the frequency with which he found milk of sufficient importance in causing symptoms to justify him in desensitizing with this protein. In my hundred cases of hay-fever, desensitizing to milk was never employed. Avoidance of cow's milk is simplified by the substitution of goat's milk in cooking and drinking.

## CONCLUSIONS

1. The frequency with which urticaria, eczema, and migraine are encountered in allergic patients suggests a definite relation between these syndromes and the allergic state.

2. Food allergy undoubtedly plays an important role in the production of urticaria, but gallbladder disease, focal infection, psychogenic factors and endocrine disturbances may also play a role

3. Eczemas are of two types—contact eczema and allergic dermatitis. In the latter type only are skin tests of any value.

4. Food allergy plays a very important role in the production of migraine, but focal infection, emotional strain and disturbances of the menstrual cycle may also be factors. Allergic headaches frequently accompany hay-fever.

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*Cholecystectomy*—The results of cholecystectomy for well defined cholecytic disease are, as a rule, highly satisfactory. The physician cannot expect 100 per cent curative results from cholecystectomy alone when other visceral disease, systemic disorders and neuroses are present. Erroneous diagnoses and imperfect selection of cases are responsible for a majority of the cases in which post-operative symptoms appear—Weir and Snell, J. A. M. A., Oct. 5, '35.

## PROSTATISM\*

ITS PRESENT DAY DIAGNOSIS AND  
TREATMENT

By

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Birmingham, Ala.

"Prostatism, miscalled prostatic hypertrophy, is either a hormone hyperplasia or a sclerotic condition of the prostate, causing obstruction to the outflow of urine through the urethra."<sup>1</sup> Five to ten years ago the literature contained numerous articles outlining the advantages and disadvantages of suprapubic and perineal prostatectomy. The advocates of each operation were extolling its virtues. Three years ago numerous articles appeared defending prostatectomy or advocating transurethral resection of the prostate. Today transurethral resection of the prostate is accepted as being the operation of choice in middle lobes, contractures of the vesical outlet, and the medium size and small prostate. At the present time the controversy is whether prostatectomy or transurethral resection should be the operation of choice where there is marked intravesical protrusion of the prostate.

Much enthusiasm has been shown over the revival and perfection of the transurethral electrosurgical operation for the relief of prostatism. The technique and instruments for this method of combating obstruction at the vesical outlet have been perfected until today we stand on definite proved ground. The urologist trained in their use can promise excellent results in from 80 to 85 per cent of the cases at one operation. Satisfactory results can be secured in another 10 or 15 per cent with two or more operations. There will be left 5 or 10 per cent upon whom transurethral resection of the prostate cannot be successfully practiced, because the size of the prostate prevents the introduction of the resectoscope or makes its use impractical. In these cases prolonged bladder drainage, by means of a retention urethral catheter or a suprapubic catheter, until the prostate decreases in size; or, if a portion of the pros-

tate is resected suprapubically at the time of cystotomy, these patients can be resected and relieved of their residual urine. This group, if their condition permits, will secure better results with a prostatectomy than with a transurethral resection.

Too many patients are still being advised that prostatism, a natural accompaniment of the later decades of life, must be accepted and endured; that due to their advanced years palliative measures should be employed until retention makes surgery imperative. This is unsound advice and is not supported by authoritative urologic statistics. Caulk<sup>2</sup> in 1930 reported 510 operations with his cautery punch without a single death directly attributable to the operation. The pathology resulting from prolonged unrelieved prostatism has been graphically described by Martin.<sup>3</sup> He states that "neglect or delay always leads to the development of complications of various sorts. Stasis is always an open invitation to infection. This is as true in relation to urine as with the intestinal residues. A moving stream purifies itself while a stagnant pool quickly becomes foul. Residual urine leads to the formation of calculi. The back pressure upon the kidney often lessens renal efficiency and leads to the accumulation in the blood of nitrogenous waste products, as shown by an increase of the non-protein nitrogen. General health impairment results. Digestion is disturbed, often to such a degree that the patient is led to regard it as the chief cause of his ill health. Any tendency to arterial hypertension is increased and changes in the arteries are accelerated. Vicious circles are formed and the patient is hastened on to complete physical bankruptcy. In advanced cases of urinary obstruction trabeculations develop, small inert diverticula are enlarged, the bladder pathology is increased and conditions develop which are irreparable, so that complete relief which might have been obtained by an early operation becomes no longer possible, no matter how skillfully the operation may be performed."

Reports show that the mortality rate from prostatism in some of our large mu-

\*From the Urologic Service of Hillman Hospital.

1. Keys, E. L.: *Urology*, New York, Appleton, 227, 1929.

2. Caulk, John R.: *Obstructive Lesions of the Prostate*, J. A. M. A. 94: 375-380 (Feb. 8) 1930.

3. Martin, W. F.: *A Plea for Early Prostatectomies*, Am. J. Surg. 4: 644 (June) 1928.



nicipal clinics at times reached 50 per cent.<sup>4</sup> This includes all cases of prostatism admitted. Many are moribund on admission, others in uremia, and a large group beyond all hope of surgery due to carcinoma, cardiac disease, and other causes. In private practice the patients are usually seen before marked damage occurs and the mortality is much lower. This high mortality should stimulate all physicians, and especially the practicing physician because he sees these cases first, to an educational program in an attempt to recognize the symptoms of prostatism early and advise these patients in regard to its treatment. This will prevent the high morbidity and mortality rate that accompanies prostatism at the present time.

If the early symptoms are recognized and operation advised before marked bladder, kidney, and cardiac damage results from back pressure, stasis, toxemia and sepsis, then the morbidity and mortality rate can be reduced to a minimum and years added to the lives of these unfortunate individuals. If its symptoms are recognized early and operation advised at that time, the majority can be resected with a minimum of pre- and postoperative treatment. Moreover, a successful result will follow with a very low mortality rate.

#### ETIOLOGY

Little is known concerning the etiology of prostatism, except that it occurs in the later decades of life. It is probably in some way related to sexual activity. Is it a true neoplasm or a hyperplastic process? We prefer to consider it a hyperplastic process. The answer to this question and the numerous theories advanced as to its etiology are only of academic interest. Hyperplasia begins as sexual activity diminishes. It is a by-product of sexual senility. It has long been known that prostatism and stricture of the urethra are seldom associated. Stricture of the urethra follows prolonged urethritis and prolonged urethritis is accompanied by prostatitis. A severe gonorrheal or non-gonorrheal infection of the prostate destroys by scar tissue so large a proportion of the prostatic epithelium that it diminishes the prospects that hyperplasia

will ever be sufficient to cause obstruction.<sup>5</sup> If obstruction occurs it will be due to sclerosis of the prostate. This is borne out by the findings in the negro. An exceedingly high percentage of negro men between the ages of 16 and 50 become infected with gonorrhea. Due to inefficient treatment prostatitis is a frequent complication. Prostatic sclerosis is the result of inflammation. Vesical outlet obstruction in the negro is usually due to sclerosis of the prostate and large intravesical lobes are found infrequently. The common forms of prostatic sclerosis are contracture of the vesical orifice, the median bar, the small fibrous prostate, and the middle lobe.

The data for this paper were compiled from the last 26 cases upon whom transurethral resection of the prostate had been performed. They are composed of private cases and cases treated at the Hillman Hospital. Of the 26 cases 10 were negroes and 16 white. In the negro patients the obstruction was due in three instances to large lateral lobes and in the remaining seven to sclerosis of the prostate. In the latter classification there was found one carcinoma with a median bar while the remaining six were due to contractures of the vesical outlet with or without the small fibrous prostate. Of the 16 white cases, the obstruction was due in 13 instances to a hyperplasia. Carcinoma complicated the hyperplasia in four instances. In the remaining three cases the obstruction was due to prostatic sclerosis.

Sclerosis of the prostate occurred seven times in ten negro patients and only three times in sixteen white patients. This supports the theory that prostatic sclerosis is due to infection.

Carcinoma occurred five times in 26 cases or in approximately 15 per cent of the patients. Statistics show that 20 per cent of patients coming to operation for prostatism have carcinoma<sup>6</sup> and that four men out of every 100 who live to be 60 years of age will have cancer of the prostate.<sup>7</sup>

In prostatism the obstruction is due either to sclerosis or hyperplasia. It is sel-

4. Caulk, John R.: Obstructive Lesions of the Prostate, J. A. M. A. 94: 375 (Feb. 8) 1930.

5. Keys, E. L.: Urology, New York, Appleton, 228, 1929.

6. Wesson, M. B.: Carcinoma of Prostate, Am. J. Surg. 12: 537 (June) 1931.

7. Young, H. H.: Practice of Urology, Philadelphia, W. B. Saunders Company I: 629, 1926.

dom that pure sclerosis or hyperplasia is encountered, the combination of the two with one type predominating being the usual finding. In hyperplasia the large lateral lobes develop from the mucosal glands<sup>8</sup> that surround the urethra. The acini become distended with proliferations of epithelium<sup>9</sup> and this forms the pseudoadenomata. The lobes are covered with the mucous membrane that lines the urethra, while the prostate gland proper is pushed aside and forms the outer capsule. The middle lobe originates from glands that lie under the mucous membrane of the urethra.

Does the prostate gland proper atrophy from old age and permit the mucosal glands to increase in size or is the atrophy of the gland due to pressure of the hyperplasia? We prefer to believe that the atrophy of old age permits these glands to increase in size. Unless interfered with by sclerosis, the hyperplasia usually consists of lateral lobes connected together by a bar or middle lobe that projects into the bladder.

Hyperplasia of the mucosal glands changes the topography of the prostatic urethra. The lateral lobes lie on each side of the urethra between the vesical outlet and the verumontanum. They never extend anteriorly beyond the verumontanum but may project greatly into the bladder. If this is remembered in doing a transurethral resection of the prostate, the external sphincter will not be injured at the time of the operation. Due to the hyperplasia the prostatic urethra is greatly lengthened, at times reaching four inches in length.<sup>10</sup> By lengthening the prostatic urethra and raising the vesical orifice the normal prostatic curve is changed to an angle. At times it forms an angle of 90 degrees (Fig. 1). The intruding lateral lobes convert the prostatic urethra into a vertical slit, with a middle lobe or median bar obstructing the vesical orifice. There may be any combination of the three lobes from the presence of all to the absence of any two, with marked variations in their size.

Sclerosis of the vesical outlet is usual-

ly accompanied by some degree of hyperplasia. It occurs earlier in life than hyperplasia and may be found in childhood. In this series there was 16 cases of hyperplasia and 10 cases of sclerosis. See Table 1 for their ages.

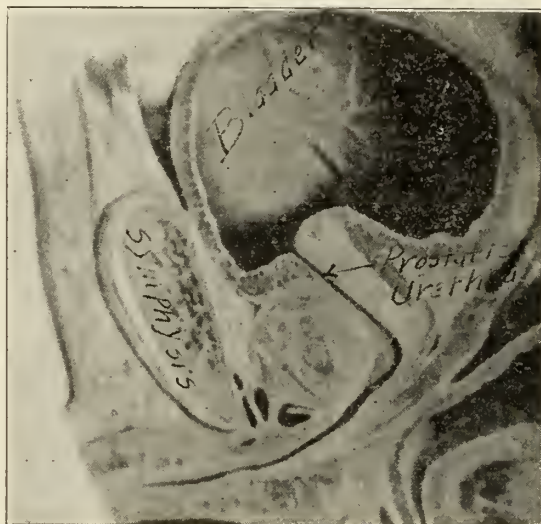


Figure 1

Sagittal section of bladder showing a deep pouch behind the intravesical portion of the prostate. Note lengthening of prostatic urethra and how it forms an angle of ninety degrees with the membranous urethra. (From Eidendrach & Rolnick's Urology.)

Table 1

Hyperplasia		Sclerosis	
Age	Number	Age	Number
50-60	1	20-30	1
60-70	7	30-40	0
70-80	7	40-50	3
80-90	1	50-60	1
		60-70	3
		70-80	2
Total	16	Total	10
Youngest	55	Youngest	24
Oldest	81	Oldest	74
Average	69	Average	56

In sclerosis of the prostate there is slight if any intravesical protrusion of the lateral lobes. The lobes are of the intraurethral type. The bladder neck is elevated and contracted (Fig. 2), at times being so tight as to make introduction of the cystoscope difficult, and it can only be introduced by depressing the ocular end. In hyperplasia the vesical orifice is wide open.

In hyperplasia rectal palpation reveals the prostate to be greatly enlarged. The lateral sulci are deepened and often the median furrow is completely obliterated.

8. Young, H. H.: Practice of Urology, Philadelphia, W. B. Saunders Company I: 420, 1926.

9. Keys, E. L.: Urology, New York, Appleton, 229, 1929.

10. Young, H. H.: Practice of Urology, Philadelphia, W. B. Saunders Company I: 425, 1926.



The gland may be enlarged until the palpating finger cannot reach its upper border. In most instances it feels to be the size of an English walnut. If the prostate is smooth, firm, elastic and not fixed, then it is probably a simple hyperplasia; if small, hard, slightly irregular and movable it is usually a sclerosis; if it is board-like in consistency, nodular, irregular, seems to extend into the pelvic wall, and is fixed as if the pelvis had been filled with cement, then it is probably a carcinoma. By rectal palpation hyperplasia, sclerosis, or carcinoma may be diagnosed. Any combination of the three may occur involving all or part of the prostate.



Figure 2

Sagittal section of bladder showing median fibrous bar. Note marked trabeculation of bladder wall and cellule formation. (From Eisendrath & Rolnick's Urology.)

The palpating finger can determine the type of prostatism but not the amount of residual urine. This can only be determined with a catheter.

Certain characteristic changes occur as the result of obstruction at the vesical outlet. These changes are local and systemic. They are not dependent so much upon the degree of hyperplasia or sclerosis as upon the degree and duration of infection and residual urine. At the onset of prostatism the bladder walls hypertrophy to compensate for the increased pressure needed to empty the bladder. As the residual urine increases, the bladder walls become thinner. Infection of the stagnated urine occurs from infections of the kidneys and prostate, or from improper catheterization. Stagnation and infection favor the formation of calculi. Saccules in the bladder wall

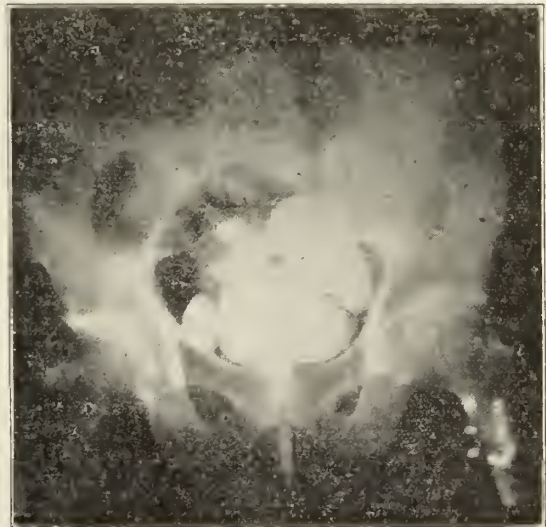
form early in prostatism and often precede the residual urine. They are herniations of the mucous membrane between bundles of hypertrophied muscles. These bundles of hypertrophied muscles are known as tra-



Figure 3

Method of demonstrating location, size, and emptying of diverticula.

(A). Bladder filled with five per cent sodium iodide. Note large and small diverticulum.



(B). Opaque medium has been allowed to escape from bladder and the latter filled with air. Note multiple diverticula.

beculations. In the latter stages of prostatism the saccules dilate and form diverticula (Fig. 3A and Fig. 3B). Cystitis is a frequent sequel of prostatism.

Due to hypertrophy of the musculature of the bladder wall, the lengthening of the prostatic urethra and the pushing caudal-

wards of the vesical orifice, that portion of the ureter that lies in the vesical wall becomes shorter as its course becomes more transverse. With these changes the lumen of the ureter that lies in the thickened bladder wall becomes comparatively quite small. Progressive dilatation of the ureters, kidney pelves, and calices with retention of urine results from obstruction and back pressure. This is followed by impairment of kidney function.<sup>11</sup>

The mechanism at the ureteral orifice that prevents the regurgitation of the vesical contents into the ureter may be destroyed by the back pressure of prostatism. Urine

may be hematogenous, lymphatic, or reflux in origin.

The inability of the kidneys to eliminate the waste products of metabolism and the absorption of the toxins from the urosepsis result in marked systemic effects. One of the changes of vital importance is that in the cardiovascular system. The myocardium is damaged until the reserve is not sufficient to withstand the strain of major surgery. A chemical examination of the blood will reveal the degree of nitrogenous retention due to kidney damage, and shows what the kidneys have been doing in the past. The phenolsulphonephthalein test shows the present function or what the kidneys are capable of doing at the present time. The kidneys may eliminate large amounts of urine that contains few of the end products of metabolism. This results in dehydration of the body tissues. The skin becomes dry, the tongue dry, coated and furrowed, despite the intake of large amounts of fluids. Most patients of this type have a damaged cardiovascular system. Some respond well to digitalis, but the majority are poor operative risks. The onset of these symptoms is often so gradual that the patient is unaware of their occurrence; and the physician not accustomed to seeing patients of this type is more than surprised at the degree of cardiovascular and renal damage revealed by the physical examination, the electrocardiograph findings, the chemical examination of the blood and the phenolsulphonephthalein test.

#### SYMPTOMS

The symptoms of prostatism do not depend upon the size of the prostate. It is not the amount of prostate that can be palpated per rectum, but the extent of the vesical outlet obstruction, the amount and duration of infection, and residual urine that produce the symptoms. Unless residual urine is present prostatism causes few symptoms worthy of note. An enlarged prostate without residual urine may exist for several years without producing more than a nocturnal frequency and dysuria. The small sclerotic prostate without rectal protrusion but with vesical outlet obstruction and residual urine may produce marked symptoms of prostatism. The symptoms of prostatism occur earlier from sclerosis

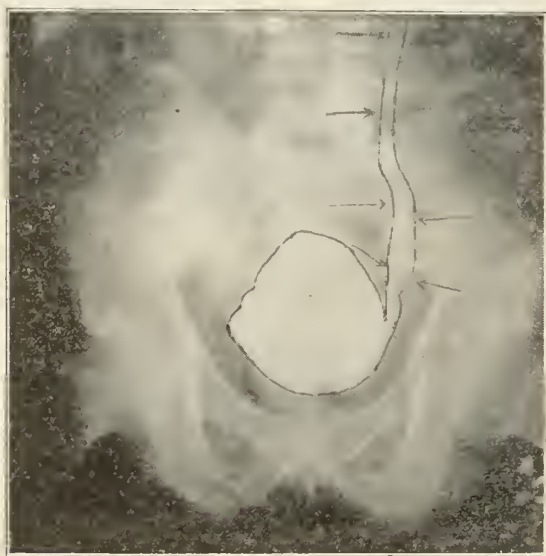


Figure 4

Cystogram from case of vesical outlet obstruction due to small sclerotic prostate. Note reflux of opaque medium into ureter. (Bladder and ureter have been outlined with ink.)

is then forced into the ureter each time the patient voids. This is known as reflux of urine and can be demonstrated if cystograms are made with the patient in the Trendelenburg position (Fig. 4). It may be present on one or both sides. Once established, infection and dilatation of the ureters and kidney pelves follow. In prostatism the function of the kidneys is reduced from sepsis, atrophy, and back pressure. Atrophy of the renal tissue results from the pressure of the dilated kidney pelvis. The infection

11. Boyd, M. L.: Prostatectomy or Transurethral Resection in Large Prostates, *The Piedmont Hospital Bulletin* (Atlanta, Ga.) 7: 15 (Oct.) 1934.



than from hyperplasia. The average age of the patients in this series operated on for hyperplasia was 69 years, while those operated on for sclerosis was only 56. Acute retention may result from sclerosis of the prostate. Of the ten patients with sclerosis, five first consulted a physician because of acute retention.

The earliest symptoms of prostatism are nocturnal frequency, dysuria, a hesitancy in starting the stream, a decrease in the voiding distance, and in the force of the stream. All or part of these symptoms are noted by the majority of men between the ages of 55 and 60. They may be noted for several years before residual urine is present. All too frequently these symptoms are accepted by both the physician and patient as the handicaps of advancing years or attributed to too frequent journeys to the shrine of pleasure in youth. A marked fall in the temperature, a heavy meal, alcoholic or sexual indiscretions, a long journey by rail or car, an acute illness, operation, or instrumentation of the urethra may convert these mild symptoms into complete blockage and retention.

Due to the gradual onset of the symptoms and false modesty, the patient is prone to postpone for several months presenting himself for relief of prostatism. Many physicians when consulted treat the condition too lightly, prescribe some simple mixture in the hope that nature will correct the condition, and fail to advise the patient to submit to a urologic examination. The duration of the symptoms in the 26 cases analyzed varied from five days to ten years, the average being 26 months. Until this procrastination is overcome, prostatism will continue to exhibit an exceedingly high morbidity and mortality rate.

The average patient first notes that the voiding distance is decreased, that straining is required to empty the bladder, and that the abdominal muscles must be brought into play to aid in the act. He finds that the stream starts only to suddenly stop or that he can void several ounces of urine following what he thought was a complete emptying of the bladder. Later, frequency of urination is present both by day and night, but only a few ounces of urine are voided at a time. All this depends upon the

degree of infection and amount of residual urine.

Residual urine is the amount of urine present in the bladder following micturition. The normal bladder should empty completely. As the residual urine increases the frequency and desire to void increase. This is due to a decrease in both the capacity of the bladder and the amount of urine required to collect to produce the stimulus that causes the bladder to contract. Normally from 250 to 350 cc. of urine are sufficient to give rise to the desire to void. Residual urine is usually followed by dilatation of the bladder, ureters, and kidney pelves. Add infection to residual urine with dilatation and the symptoms of acute urosepsis (chills, fever, and sweating at irregular intervals) predominate. The infection may be from improper catheterization or hematogenous in origin.

If infection is absent, systemic symptoms, due to the inability of the kidneys to eliminate the waste products of metabolism and the accumulation of them in the blood, result. The tongue and skin become dry, the patient lethargic and weak. The appetite is poor; constipation, thirst, indigestion and abdominal distension are common complaints. The bladder may be palpated above the symphysis. If the urinary history is not carefully taken and the residual urine determined the patient may be treated for one of the systemic symptoms and the underlying pathology overlooked. A man over 55 years of age should never be examined without carefully going into his urinary and sexual history. Increased sexual capacity and desire at this age usually indicate irritation from an enlarged prostate and not a return of youth. Hematuria may be the first symptom to cause the patient to consult a physician. The bleeding may be only sufficient to stain urine or a hemorrhage massive enough to fill the bladder with clots. Hematuria in prostatism is usually due to hyperplasia and not malignancy. Calculi may complicate prostatism and be the cause of the hematuria.

#### DIAGNOSIS

The diagnosis of prostatism is based upon a well taken history and a careful examination. The urinary history is of great

importance. While it will not reveal the type of obstruction or the amount of residual urine, it will yield valuable information in regard to the length of time urinary disturbances have been present; if they subsided spontaneously or were relieved by treatment, and if acute retention, hematuria, marked pain, pyuria or upper urinary tract infections have been present.

When a man over 50 complains of frequency of urination, especially nocturnal frequency, a decrease in the voiding distance and a diminution in the size of the stream, suspicion falls on the prostate. If the symptoms are due to a stricture, a history of gonorrhea or trauma and previous treatment will usually be obtained. It is rare for urinary disturbances from a stricture to occur for the first time this late in life.

While prostatism is considered as being a disease of the latter decades of life, it cannot be excluded on age alone. Of the 26 cases studied, four were below 50, the youngest being 24. Acute retention repeatedly occurred in this patient from a contracture of the vesical orifice. Numerous cases of chronic retention in childhood from contracture of the vesical orifice have been reported. In children a complete urologic examination in cases of dysuria, pyuria, frequency, retention, enuresis, urosepsis and pyelitis will often demonstrate vesical orifice obstruction to be the primary pathology.

In making a urologic examination it is important that a definite and systematic routine be followed. It is not advisable to attempt to complete the examination at one sitting in the majority of instances.

A careful physical examination should precede the urologic examination, special note being made of the blood pressure, whether there is evidence of cardiovascular disease and if the central nervous system is involved with syphilis or other diseases. If there is evidence of cardiovascular pathology, the advice of the cardiologist is sought. His advice and the information furnished by the electrocardiograph are of great value in the preoperative treatment and the postoperative care of these patients. The postoperative mortality is often due to failure of the cardiovascular system. The

partial or complete postoperative suppression of urine with uremic symptoms is usually due to a failing myocardium and not, as often believed, to a poor renal reserve. Most any kidney will weather the storm of prostatic surgery if the myocardium does not fail. Careful postoperative observation will show that a drop in the blood pressure, an increase in the pulse rate and a failing myocardium preceded a decrease in the urinary output. As a fire engine is no better than its pump a prostatic patient is no better than his heart.

A neurologic examination should be done that includes at least a test of the pupils and the reflexes. Furthermore, the possibility of syphilis should be considered lest disease of the central nervous system responsible for the urinary disturbance be overlooked. There is a marked similarity in the symptoms from a neurologic bladder and those from vesical outlet obstruction. If the patient has syphilis, treatment and an examination of the spinal fluid should precede the operation. If there is evidence of involvement of the central nervous system, the advice of a well trained neurologist should be sought. An operation on a neurologic bladder is as unexplainable to the family as a death from spinal anesthesia. Fortunately the cystoscopic picture and the cystogram in a neurologic bladder are very characteristic and easily interpreted. It is also uncommon to find vesical outlet obstruction and a neurologic bladder associated.

The patient is asked to void the first part of his urine in one glass and the second part in a second glass, care being taken to pass all the urine possible. A note is made of the size and force of the stream, and the character of the urine. The prostate is palpated through the rectum. Its size, shape, and consistency are noted. It is very gently massaged and the secretion examined to determine the amount, if any, of infection present. With careful technique, an old No. 16 F. Robinson catheter is gently introduced to determine the amount of residual urine. If the prostate is greatly enlarged and the prostatic urethra markedly angulated, a silk catheter with a Coude' or prostatic curve may be required to catheterize the patient. If more than three ounces of residual urine are present the ca-



theter is permitted to remain as a retention catheter and a bilateral vasosection done the same day to prevent the development of an epididymitis. From 20 to 30 per cent of patients prepared for operation with an indwelling urethral catheter develop epididymitis unless this precaution is taken. The epididymitis is usually of the suppurative type, and in the extremely ill patient may mean the difference between a fatal termination and a successful outcome. If epididymitis develops an epididymotomy should be done in 72 hours if the patient is not free of pain and elevated temperature at that time. If it is postponed for several days an orchidectomy may be required. If less than three ounces of residual urine are present, the bladder is irrigated with 1-8000 acriflavin and the catheter removed. The residual urine is checked again in 24 or 48 hours and the prostate examined with the McCarthy panendoscope to determine the degree and type of obstruction present at the vesical outlet. During the examination and the pre- and postoperative period of treatment, urotropin and acid sodium phosphate, of each 15 grains, is given three times daily. This prophylactic treatment aids greatly in the prevention of the development of urosepsis.

By means of cystoscopy and urography (Fig. 5) the exact type of obstruction producing prostatism and residual urine can be determined. The condition of the patient decides when cystoscopy shall be done. If a retention catheter is to be employed we prefer to wait until the patient becomes accustomed to its use before attempting cystoscopy. A better view of the prostate and bladder will be obtained before the edema that results from the use of a retention catheter develops, but the pain and reaction suffered by the patient will be greater. The cystoscope will pass with greater ease and less trauma following the use of the retention catheter, because the urethra has been dilated and the sphincter relaxed. One soon learns to interpret the pathology despite the edema present.

It is with the cystoscope that a decision is reached as to what type of operation offers the best end result with the lowest morbidity and mortality rate. It is the size and length of the prostate and not the amount of residual urine that determines

the type of operation. The McCarthy panendoscope is the only satisfactory instrument for this examination. With it an accurate determination of the type of vesical outlet obstruction and the length of the prostate can be made. The prostate is also palpated on the cystoscope. This is very important since, by this maneuver, its exact thickness can be determined, and any infiltrations in the posterior lobe, posterior urethra, or other portions of the gland



Figure 5

Pneumogram. Arrows point to dark area at base of bladder due to enlarged prostate.

made out that may have been overlooked at the first examination. A Brown-Buerger cystoscope is substituted for the McCarthy panendoscope and the bladder examined for foreign bodies, tumors, ulcerations, diverticula, dilated ureteral orifices, etc. If the physical findings indicate a kidney infection, the ureters are catheterized to determine if this assumption is correct. Should the cystoscopic examination suggest that a diverticulum or dilated ureteral orifice is present, a cystogram and pneumogram are made with the patient in the Trendelenburg position. This will demonstrate either a diverticulum or a reflux of urine up the ureter.

The neurologic bladder can be diagnosed from the painless passage of the cystoscope, the relaxed internal sphincter, and

the pear-shaped cystogram. The pear-shaped cystogram is produced by the relaxed internal sphincter permitting the cystographic media to flow into the posterior urethra.

If carcinoma of the prostate is diagnosed or suspected, the spine and pelvis should be x-rayed for metastasis. The diagnosis of prostatic calculi is also confirmed by x-ray.

The blood count, the phenolsulphonephthalein test, and the nonprotein nitrogen and creatinin readings of the blood complete the examination. A definite outline of the preoperative treatment and the type of operation to be employed can now be made.

#### TREATMENT

Surgery is the only satisfactory treatment for prostatism, and the earlier advised the kinder you have been to your patient. To temporize is to invite misfortune, because with each succeeding attack the patient becomes a poorer operative risk. Unless carried off by some intervening illness, he will be forced sooner or later to submit to surgery or lead a "catheter life." By a "catheter life" is meant the continued use of a retention catheter or self catheterization. Due to infection the average patient does not survive this contingency more than two or three years. The patient that at first accepts the "catheter life" but later submits to a prostatic resection invariably states that the catheter was productive of more woes than the resectoscope.

It is natural to ask, why advise surgery on patients advanced in years if it can be postponed? The answer is that the mild prostatism of today may be the acute retention and urosepsis of tomorrow. Any patient with a consistent residual urine, or without residual urine but with marked symptoms of prostatism should be advised to submit to a transurethral resection of the prostate or prostatectomy as indicated. If he cannot be prepared for the operation then he will be forced to lead a "catheter life."

Routinely we prepare our cases of prostatism for operation with a retention urethral catheter. Occasionally due to pain, hemorrhage, and urosepsis, suprapubic

drainage must be substituted for the retention catheter. The patient with carcinoma of the prostate often complains of pain and burning, and tolerates the retention catheter poorly. He should receive intensive pre- and postoperative deep x-ray therapy. It will control the pain due to metastasis, and may delay the spread of the metastasis and the growth of the primary tumor. Radium in the hands of those experienced in its use may be of great value in this type of case. Transurethral resection is performed to establish free bladder drainage. If this is not done the patient will succumb to urosepsis before he has time to die from carcinomatosis.

The patient advanced in years and in acute retention from prostatism should never have his bladder suddenly emptied, but should be slowly and gradually decompressed. If this is not done hemorrhage or suppression of urine may follow. An efficient and practical decompression outfit can be constructed from a glass Y tube and two four-foot pieces of half-inch rubber tubing. The Y tube is inverted and the rubber tube attached to the legs. One piece of the tubing is attached to the catheter and the other inserted into the drainage bottle, care being taken not to allow any of the urine to escape from the bladder. The apparatus is raised until the urine stands in the leg of the Y tube. The open end of the Y tube prevents the formation of a siphon. Every six hours the apparatus is lowered one-eighth of the distance to the level of the bed. It is discontinued at the end of 48 hours.

The detailed technique of the preoperative preparation and the decision as to when the patient is ready for operation will be omitted, since this is well known to the urologist and would not be of interest to the non-urologist. The patient must be as carefully prepared for a transurethral resection as for a prostatectomy. The shock of the transurethral resection is much less than that of a prostatectomy and many patients will survive the former that would succumb to the latter.

The technique of the actual electrosurgical removal of the prostatic tissue with the resectoscope will also be omitted. For satisfactory and permanent results all the prostatic tissue that can be engaged in the



loop of the resectoscope, from two to ten o'clock at the vesical orifice and extending to the verumontanum, must be removed. When viewed from the verumontanum a channel should extend to the bladder. Prostatic tissue should not project into it, and it should be possible to see the interureteric ridge and the ureteral orifices. All bleeding must be controlled and the return flow of water clear before the resectoscope is removed. The removal of all obstructing tissue and the prolonged postoperative use of the retention catheter prevent delayed hemorrhage and urosepsis, and give a satisfactory end result.

Of the different types of resectoscopes and machines for generating the electro-surgical current, we prefer the McCarthy resectoscope and the spark gap type of machine. With the spark gap machine less hemorrhage occurs at the time of operation and that which does occur is easier controlled. This means that more prostatic tissue can be removed at one setting. Statistics show that fewer cases of postoperative hemorrhage and other complications develop where the spark gap machine is employed.

Of the 26 cases studied 13 first consulted a physician because of acute retention of urine. Of the remaining 13 cases, residual urine was absent in one; in the other 12 it varied from two to twenty ounces, the average being seven ounces.

The period of preoperative treatment varied greatly. Several patients postponed operation from a few days to several months after they were ready for it. The preoperative period of treatment is not included because it would be incorrect and misleading.

The postoperative stay in the hospital ranged from four days to thirty days, the average being ten days. The postoperative hospital days were materially increased by several charity patients, that were kept in the hospital longer than necessary because of economic reasons and the lack of any one to care for them when they were released.

None of the patients required operative procedures to control either immediate or delayed hemorrhage. One patient developed a hemorrhage on the third postoperative day, but it was easily controlled with a bag introduced through the urethra.

The majority of the patients wore a catheter from seven to ten days following the transurethral resection. Two of the patients were unable to void a free stream when the catheter was removed at the end of ten days. It was reinserted and its use continued for ten days longer. When removed this time they were able to void a free stream. None of the patients required a second operation and all were relieved of their residual urine. The end results were satisfactory except in two instances. Of these two, one developed a retention of urine at the end of one year; the other, a foreigner of low mentality with an advanced carcinoma, had a moderate dribbling of urine following the operation. This seemed to be due more to marked urgency and frequency than to an injury of the external sphincter. Track was lost of him at the end of four months, and the final outcome is unknown. One patient died from an accident and another from his carcinoma at the end of one year. As far as we know the remaining cases are living and well. All the patients were well pleased with the transurethral resection of their prostate and delighted that a prostatectomy was not performed.

May we ask, for the sake of the patient, that he be advised to have a urologic examination at the first signs of prostatism to determine if surgery is indicated? The physician who procrastinates in the face of prostatism, however worthy his motives may be, adds to its morbidity and mortality rate just as inevitably as does the patient who postpones presenting himself until marked renal and cardiac damage has occurred or refuses surgery when it is advised.

511 Medical Arts Building.

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**Cancer**—In spite of the many difficulties encountered, marked progress has been made in the study and treatment of cancer. Yet it is misleading to state that cancer can be prevented, because our present social structure fails utterly to consider the vital role played by heredity in the development of such growths. Thus, in our totally unpedigreed state I would not be too optimistic about the possibility of completely ridding mankind of cancer. However, if treated early enough, most cancers can be cured.—Broders, *Texas State J. Med.*, September 1935.

# THE JOURNAL

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VITAMINS

"The natural food of an animal in the wild state is eaten uncooked, whole and living or not long dead. Modern man gets but a small part of his food in this state, for the development of civilized society has brought with it ever lengthening intervals of time and space between the production of food and its consumption. Natural, fresh foods are in general the more perishable and the more expensive; preservation and storage are economic necessities, and the cheaper foods must supply the needs of the great mass. Finally, taste, custom and commercial propaganda go even farther from the animal biologic needs." In these well chosen words Marks<sup>1</sup> explains how and why mankind is prone to suffer from vitamin deficiency. The author also goes on to show how the processes of milling, canning or preserving tend to lessen the amounts of vitamins that foods contained before being processed. He also states that "in modern methods of canning the exclusion of air tends to prevent vitamin loss, but dehydration, storage in air and home methods of cooking and canning destroy vitamin C." And he also states that "studies of vitamin deprivation up to the present time have been predominantly concerned with the disorders produced by total or nearly total absence of these factors from

the diet. This type of study has yielded a mass of information with regard to the characteristic deficiency syndromes of the vitamins. It has left almost untouched the important question of the effects of long continued slight deficiencies." This last quotation of Marks' is a charge against research workers and practicing physicians, for undoubtedly both have been prone to concentrate upon the spectacular and to overlook the less marked cases of avitaminosis. Every clinician sees many patients who are neurotic, anemic, asthenic, lacking in resistance to respiratory and other infections and who yet show no organic defects. Many of these unhappy patients are suffering "from lesser degrees of inadequacy of necessary dietary constituents." And if they received less medicine and more advice in regard to their dietetic habits they would probably improve to a surprising degree and reach a satisfactory state of well being.

McLester<sup>2</sup> objects to designating vitamins as "antiscorbutic," "fat-soluble," "water-soluble," "antirachitic," or "antineuritic." He suggests instead that "the vitamin related to growth is called 'vitamin A,' to beriberi, 'vitamin B,' to scurvy, 'vitamin C,' to rickets, 'vitamin D,' to gestation, 'vitamin E,' and to pellagra, 'vitamin G.'"

The following table, taken from Marks, indicates the richest sources of the different vitamins. "It is not intended to indicate all the foods in which the various vitamins are found but only those which constitute the best sources of each.

Vitamin A: Butter fat, cod liver oil, yolk of egg, green leafy vegetables, prunes, apricots, carrots.

Vitamin B: Whole cereals, nuts, legumes, wheat germ, yeast.

Vitamin C: Fruits and vegetables, especially the citrus fruits, tomatoes and bananas.

Vitamin D: Yolk of egg, cod liver oil.

Vitamin E: Fresh vegetables, wheat germ.

Vitamin G: Meats, milk, vegetables, fruits, eggs, whole cereals, wheat germ, yeast."

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1. Marks, Henry E.: Dietetics for the Clinician, by Bridges, Milton A., Lea and Febiger, 1935, pp. 25-46.

2. McLester, James S.: Nutrition and Diet in Health and Disease, W. B. Saunders Co., 1931, pp. 86-101.



Vitamin A is essential to growth and augments the "anti-infective" efforts of the tissues, especially the epithelial surfaces. "Vitamin B is also concerned in growth, but the most graphic disorder to which it is related is polyneuritis." (McLester). Beriberi and lesser forms of polyneuritis, and probably much nervousness and irritability, are caused by a deficiency of vitamin B.

It seems that vitamin B deficiency is probably the most common form of avitaminosis and, according to Marks, the most satisfactory B supplements are cereal germ and dried brewer's yeast. Vitamin C is perhaps the first vitamin of which we had an empirical knowledge, due to the prevalence of scurvy on the old time sailing vessels. The fact that typical scurvy is now rarely found shows how a deficiency disease can be eradicated. Vitamin D prevents and relieves rickets. It is the vitamin calling for the most care in administration because, especially in the form of viosterol, overdosage may result in deleterious effects. Vitamin E is considered to be essential to reproduction, though not very much is known about it to date. Vitamin G cures or alleviates pellagra, though other factors than the presence or absence of the vitamin must be reckoned with.

The quest of the vitamins has just begun and yet a great deal has been learned within the last fifteen years. The number of vitamins is being constantly added to and subdivisions such as B<sup>1</sup>, B<sup>2</sup>, B<sup>3</sup>, and B<sup>4</sup>, are beginning to appear. The mystery of the chemical composition of the vitamins is being slowly solved and already there are indications that we may some day achieve them synthetically.<sup>3</sup> And, as previously stated, we have already learned much about preserving foods without seriously lessening their vitamin content. Perhaps the most sensible attitude for the practitioner to take is contained in the following quotation from Marks: "Much work remains to be done before we shall be able to say with certainty that any diet is satisfactory and complete in all necessary nutritional factors; but *we already have sufficient knowledge to bring about an immense improvement in general health and in the effectiveness of our own therapeutic measures.* Ig-

norance and poverty are the two obstacles which stand in the way, and by combating the former the physician stands in the front line. The clinician interested in nutrition will find a large proportion of patients eager to understand the relation between diet and health. If he will make them understand the importance of the accessory factors in the maintenance of good health and nutrition, and show them how to insure an adequate intake of these factors in the diet, he can help to further the great improvement in public health which modern nutritional knowledge makes possible."

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#### A CORRECTION

The eighth conclusion in Dr. Gilbert Douglas' article, "Ovulation, Menstruation and Finding the 'Safe Period,'"—September Journal, page 119—should read as follows: (8) The "fertile period" in women with normal 28-day menstrual cycles can usually be considered between 11 and 17 days preceding next menstruation."

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**Shall We Tell the Cancer Patient the Truth—**A serious discussion has been going on for some months in the pages of the medical journals over the question: "Shall we tell the cancer patient the truth?" The very fact that the profession is debating the subject shows that it is rearranging its ideas and questioning its own former attitude. Has the time come when honesty is the best policy? The American Society for the Control of Cancer thinks that it has. In its bulletin it points to the extensive educational efforts in recent years to give the public the facts about cancer, and suggests that deception and subterfuge by the physician at the very time when cancer becomes an actuality mars and damages public confidence in all that has been taught. The fear of cancer is almost universal, and if people feel that they cannot depend on their own family doctors to tell them the truth, then fear degenerates into panic. The laity have been educated up to the point, however, where they are using their intelligence rather than their emotions, and they expect and should receive frank and intelligent treatment from their physicians. The enlightened attitude of the laity is leading to early treatments and to more cures, and this splendid state of things should be fostered and encouraged.—From the "Across The Desk" column of the N. Y. State J. Med., October 1, 1935.

3. Bulletin of Hygiene, Bureau of Hygiene and Tropical Diseases, London, 9: 572 (Sept.) 1934.

## THE ASSOCIATION FORUM

*(Under this heading will appear, from time to time, as occasion may arise, contributions having a direct bearing on the general policies, functions and interests of the Association. Articles submitted should be of an impersonal nature.)*

### MEDICAL AND HEALTH LEGISLATION IN 1935

J. N. Baker, M. D.  
State Health Officer

The 1935 Legislature, which began its deliberations early in January, came to a final close on Friday, September the 13th., after consuming 49 of the 50 working days allotted to it by the Constitution. During this time, one rather lengthy recess period and one short period were had, to enable committees to study more in detail the existing needs and present revenues of the State and to attempt to formulate definite plans for increasing the State's income to meet the new mounting demands being made upon it. While it is hoped that the new Revenue Bill adopted will augment the State's resources by some \$1,500,000 or possibly \$2,000,000, this amount will not suffice to care for the many new responsibilities and additional appropriations made by the Legislature. This fact is fully appreciated, and the feeling is well-nigh universally prevalent that after permitting the State to operate for the remainder of this calendar year, further legislative action will be called for in order to satisfactorily adjust income and output. Such a step will be necessary, for the Budget and Financial Control Act provides that the State cannot and must not exceed its income.

Even though one's interest may be genuinely acute in governmental affairs as they pertain not only to his own particular sphere of activity in life, but also to society in the large, yet events have been marching with such kaleidoscopic speed across the stage of our legislative bodies, both Federal and State, as to defy a comprehensive grasp of the whole by even the most diligent student of current affairs. Any member of the Medical Association of the State of Alabama, who has studied its unique constitution and its practical workings, cannot fail to grasp the indissoluble ties which bind the medical profession to the people of this State and to their chosen representatives—the Legislature. When

Alabama's legislative body is in session, the State Health Officer has the rather difficult task of serving in a dual capacity, over and above his duties as administrative head of the health department; in short, he serves as spokesman for the interests both of the people and of the medical profession. Every legislative session brings forth problems such as the chiropody and lien bills which are of more direct and immediate concern to the medical profession than are certain other matters which deal solely with health problems. It is quite as important to keep an ever watchful eye on all legislation introduced, in order to forestall such as may be unsound or prejudicial, as it is to sponsor and promote new and wholesome measures. The reader need hardly be reminded that, shortly after the present incumbent came into office, "the financial crash" fell on Alabama with a pitiless thud. During the four-year period, 1931-1934, all thought had to be abandoned of promoting new constructive legislation and concentration given to the salvaging of everything possible of the existing health structure. In no spirit of boast, it may be said that a sufficiently sound nucleus has been preserved, around which to rebuild, provided the full amount of the present state appropriation can be made available. During this present legislative session, considerable attention has also been given to certain new and constructive measures which, if enacted into law, would place Alabama's health system on a considerably higher plane and give to our citizens an added protection and safety. Not only this; many of our existing health laws, enacted a half century, more or less ago, are now obsolete and out-worn. Those have been modernised, brought up to date and are now on the statute books.

In the November 1934 and in the March 1935 issues of the State Journal the State Health Officer, through the columns of the Association Forum, attempted to briefly outline some of the legislation to be considered and which should claim the serious



consideration of the profession. Below is given the final outcome and the fate of such legislation.

#### CHIROPODY BILL

Early in the session the chiroprodists introduced a bill seeking rather broad latitude in the medical and surgical field and setting up their own separate licensing board. The arguments against this type of legislation were presented in the January 1935 issue of the Journal in an article entitled, "Why Partition the Human Body." After a rather lengthy and courteous hearing before the Public Health Committee of the House, this Committee unanimously voted to adverse this bill.

Nothing daunted, the proponents of this bill again had it introduced into the House limiting its application to Mobile County, by restricting it to a certain population group. This action made of it a local measure and upon being referred to the Committee on Local Legislation was reported upon favourably without a hearing and sent to the Senate; there it was referred to the Public Health Committee of that body. The Mobile County Medical Society was promptly apprised of this action and unanimously protested to their Senator and Representatives against local legislation of this nature. After a hearing before the Public Health Committee of the Senate, before which the State Health Officer appeared in order to point out the need for preserving the present high standards in Alabama for all who seek to handle human ailments, this committee wisely voted to report the bill unfavourably and consequently it did not emerge from the committee. This maneuver in having the bill assume the aspects of local legislation increased the difficulties of preventing it becoming law, as "the legislative courtesies" inherent in all local legislation are well-nigh insuperable.

#### THE LIEN BILL

Early in the session of the Legislature, Senator Rogers, of Mobile, introduced into the Senate a lien bill sponsored and endorsed by the Mobile County Medical Society. This bill was somewhat limited as to the protection which it afforded to private hospitals and nurses. Dr. Kirkpatrick, of Selma, had given considerable study to this question and had, with the aid of legal

counsel, drawn a lien bill with broader scope, for introduction into the Legislature. After interchange of correspondence between Dr. Kirkpatrick and the Mobile County Medical Society, and, with the consent of Senator Rogers, the Kirkpatrick Bill was substituted for the Rogers Bill and after introduction referred to the Judiciary Committee of the Senate, of which Senator Simpson, of Birmingham, is Chairman. This committee was composed almost exclusively of lawyers. The State Health Officer appeared before the committee to explain the merits of the bill and the need for the protection to hospitals and to the medical profession which this bill sought to provide. Several of the committee members opposed the bill, largely basing their objections on the commercial tendencies of some physicians to unduly penalise insurance companies, when it was ascertained that a coverage policy was held by the injured party. It was apparent from these expressions that the entire medical profession was being brought into disrepute because of the questionable practices of a few of its membership. Mention is here made of this incident for the reason that impressions of this nature are difficult to refute and effort should be made within the medical profession to promptly correct abuses of this sort. Upon final vote, the committee decided to report the bill out favourably, but it never reached the Senate floor and, consequently, was not enacted into law.

#### BILL REGULATING SALE OF BARBITURIC ACID COMPOUNDS

The need for some sort of regulatory control over the indiscriminate sale and use of the barbituric acid compounds, which frequently lead to harmful results, is one which has long been appreciated by the medical profession. After consultation with the health department, Representative Tolbert, of DeKalb County, introduced a bill, limiting the dispensing and sale of these products to prescriptions signed by legally licensed practicing physicians. This bill passed both houses without opposition and is now law.

#### STERILISATION BILL

Early in the session, a sterilisation bill which had been drafted by Dr. Partlow, who had given this subject considerable

thought and study, was introduced into the Legislature by Representative Dominick, of Tuscaloosa. At the Mobile session of the State Association the complete legislative program submitted by the Board of Censors, in which was included legislation dealing with sterilisation, received the endorsement of the Association. The bill, after introduction, passed both houses by substantial majorities. Upon reaching the Governor's desk, the question of its constitutionality was raised, and the Supreme Court of the State was called upon for an advisory opinion. This Court did not question the legal right of the State to enact such legislation, but did point out wherein sections of the bill as submitted failed to provide the right of appeal in each and every case dealt with. The Governor vetoed this bill. The sponsor of the bill, after making such changes as were necessary to bring it in line with legal requirements, introduced his revised bill. This bill again passed both houses by substantial majorities. The Governor returned this bill without his approval to the House of Representatives accompanied by the following veto message:

To the House of Representatives,  
Montgomery, Alabama.

Gentlemen:

I am herewith returning to you, the House in which it originated, without my approval House Bill No. 745, commonly known as the "Revised Sterilization Bill."

In a message to you on the 25th of June, returning without approval the original Sterilization Bill, I said in part:

I am convinced that the social benefits expected to result from this bill are dependent largely upon theories, upon theories on which the experts are far from agreement. The hoped-for good results are not sure enough, or great enough to compensate for the hazards to personal rights that would be involved in the execution of the provisions of the bill.

As to females, it entails a major operation and I am informed that experience shows that in all major operations there is an appreciable percentage of fatalities.

This revised bill attempts to supply that necessary due process of law which was omitted from the original bill, but this is supplied in form only. This is not made really available under the present bill because, notwithstanding there is recited therein that "The State of Alabama shall pay all expenses and costs incident to an appeal from the decision of the Medical Board of Sterilization, etc.," there is no appropriation whatsoever contained in the bill to defray this or any other ex-

penses which the bill recites shall be paid by the State.

Without an appropriation this recited due process can not be available to those unable to pay for it, and there is no appropriation whatsoever in this bill.

We know that the enforcement of the provisions of this bill as to girls and young women will entail major operations upon many thousands. We know that an operation within the abdomen upon the sexual organs is one of the most serious operations and that of necessity there will be a great number of deaths. Those who will die are innocent and pure, have committed no offense against God or man, save that in the opinion of experts they should never have been born.

If it were necessary for the protection of society to sacrifice some for the benefit of many, we might be forced to consider this vicarious sacrifice for the public good as justifiable, but we are not forced to take either horn of this dilemma.

In our State society is now, and can continue to be, amply protected in this respect. We are now, in our feeble minded institutions and other institutions, confining these unfortunates where they are kept safe and harmless, both as to themselves and as to society. We can continue to protect society in this way if we so elect and can continue to segregate these unfortunates in these institutions. Simply because it may be cheaper to operate on all and kill some than it is to segregate all, still I insist that we haven't the right to kill a single one of these innocents. We know that is what this bill will do. We haven't the right to kill because it is the cheapest way to solve this problem.

True we will not know what particular individuals will be called upon to make the vicarious sacrifice but we do know that some individuals will be, and I can not find it possible for me, in the exercise of the power placed in my hand by the people of Alabama, to cause the death of these innocent unfortunates simply as the easiest way, in the opinion of experts, to protect society.

I, therefore, veto this bill and, pursuant to the provisions of our Constitution, return it to you for such action as you may see fit to take.

Respectfully,  
Bibb Graves,  
Governor.

September 4, 1935.

#### RABIES BILL

A peculiar and inexplicable psychology seems to seize upon the legislative mind when confronted with any problem dealing with the State's dog population.

Statistics on file in the health department show that the major portion of all the rabies problem has its origin in the homeless, vagrant canine wandering aimlessly about and spreading havoc among the human and dog population alike. As this is being written, more than sixty school children in Macon County are being forced to



take the preventive rabies treatment because of the ravings and roamings of a single puppy. This is not an isolated incident; it is an all too frequent occurrence throughout the State. The health department, through the splendid co-operation given it by the lay press, has endeavoured to keep the public informed as to the seriousness of the rabies problem as well as of the urgent need for some sort of legislation looking to its control and spread. A reasonable bill, of state-wide scope, looking to this end and which provided, a fee of one dollar to be used exclusively for enforcement purposes, was prepared and introduced into the House by Representative Robertson, of Cullman. This bill was defeated in the House. It was then introduced into the Senate by Mr. Walton, of Chambers County, and there amended by reducing the fee (which included both the canine vaccine and its administration) from one dollar to twenty-five cents. This amended bill, after a rather stormy debate on the floor of the House, was finally passed on the last legislative day.

Inasmuch as the canine vaccine, even at wholesale prices, costs around twenty cents, any effort at enforcement of this law will likely prove futile and ineffective. In this connection, the State Health Officer is reminded of the rejoinder made by that wise nonogenarian, Elihu Root, when asked for his comment regarding the United States Senate's refusal to join in the World Court. His reply was: "Naturally, I am disappointed; but I am willing to wait until the world catches step."

#### STATUS AND SALARY OF STATE HEALTH OFFICER

Through the columns of previous issues of the Journal effort has been made to keep the members informed as to the legislative and judicial happenings in so far as their executive officer was concerned. This officer, on two previous occasions, had been declared by the Supreme Court of the State to be an officer of the Board of Health, by which body he was elected, and not an officer of the State. For a number of years the State Health Officer's salary had been fixed on a parity with that of the Chief Justice of the Supreme Court. When the Legislature reduced the salary of this official below that of the Chief Justice of the

Supreme Court and, in fact, more drastically than that of any other state official, counsel for the Board of Censors advised that mandamus proceedings be instituted against the State for the purpose of determining the exact status of the State Health Officer. This was done. The lower court decided in consonance with the previous decisions of the Supreme Court. The present Supreme Court, however, held that the State Health Officer was an officer of the State and not of the Board. At this session of the Legislature, a bill was enacted defining the status of the State Health Officer, fixing his term of office and giving authority to the State Board of Health to fix his salary at a figure not to exceed that paid to the Chief Justice of the Supreme Court. However, during the present session, no salary changes were made and alteration in the present salary of the State Health Officer will not be made until the Legislature sees fit to give consideration to the salaries of all State officials.

#### AMENDMENT TO PRESENT HOSPITAL TRAINING SCHOOL BILL

Those members of the Association who have been intimately associated with the training schools of hospitals can fully appreciate the difficulties encountered in complying with the provisions of the old act which made it mandatory upon the smaller training schools to create affiliation facilities with larger hospitals for their senior pupils. In theory, such a scheme would seem plausible and worthy; in actual practice, however, it never proved workable and created considerable confusion and dissatisfaction. The amendment to the present bill, which became law, abolishes this provision for affiliation and requires hospitals operating training schools for nurses to have a daily average of not less than 20 patients. The provisions of the bill do not apply to nurses now in training in hospitals which cannot meet these bed requirements; of such there are not more than five or six and it is not felt that any undue hardship is likely to befall any hospital affected.

#### STATE SUBSIDY FOR COUNTY TUBERCULOSIS SANATORIA

Alabama's lag in effort to do something in a concrete way for the 15,000 tuberculous cases within its borders is little short of a

stigma. This fact has been appreciated by the present State Health Officer and in 1931 a bill was enacted by the Legislature which sought to make a beginning in the solution of this gigantic problem. During the past four years and because of the State's crippled financial condition, all hope for promoting a state-wide tuberculosis program had to be temporarily abandoned. However, during the Civil Works Administration activities two counties—Jackson and Morgan—sensing the great need for making some provision for their own tuberculosis problem, grasped the opportunity of procuring Federal aid for construction purposes and are now the proud possessors of modern, creditable sanatoria. Four other counties—Etowah, Jefferson, Mobile and Montgomery—already possess some sort of institutions for this purpose, which are being maintained entirely on a voluntary basis without state aid. The foundation of Alabama's plans for a state-wide tuberculosis program rests upon the principle—believed to be sound for this State—of local responsibility and local financial participation, with the State making its contribution in the form of a subsidy for maintenance. These plans, after explanation to the Governor, received his hearty approval and support. An amendment to the present tuberculosis sanatorium bill was introduced into the Legislature, providing for a State appropriation to aid counties in maintaining such institutions. The original amendment provided an initial appropriation of \$75,000 for the first year with a gradual increase of \$25,000 annually until \$150,000 had been reached. The monies thus provided were to be distributed to the institutions participating on the basis of 75c per diem for each case cared for and that any surplus accruing at the end of the fiscal year would revert to the State treasury. This was further amended in the House, accepted in the Senate and approved by the Governor, to provide an annual appropriation of \$75,000 for the ensuing four years, to become operative when, in the opinion of the Governor, the treasury of the State would justify. This step definitely marks a beginning in our state-wide program; even more important is that the State recognizes and accepts its responsibility in this important matter. With this assurance of aid on the State's part, counties

should and must be stimulated to go forward in developing, as rapidly as possible, their local plans for coping with this problem.

#### APPROPRIATION FOR GENERAL HEALTH WORK

Through the reports of the State Board of Censors and of the State Health Officer at the annual meetings of the Association, as well as through the columns of the State Journal, effort has been made to keep the physicians of the State, who constitute, by law, the State Board of Health, accurately informed not only as to the progress and development in the field of public health, but also as to the financial difficulties experienced by the health department in the recent years of the depression. The drastic recommendations which the Association was forced to make at its annual meeting in 1933 to the State Health Officer in the matter of curtailment of activities are fresh in the minds of all. At that time the appropriation had been reduced by 42%; but the revenues of the State were then so lean as to justify only about 65% of this amount being received. Consequently, the fiscal year 1933-1934 constituted the darkest period of the health department's existence, during which time many activities were entirely suspended. During the present fiscal year the State's revenues have improved to such an extent as to warrant the payment of existing appropriations in full. In the face of this fact, the recess finance and taxation committee, whose task it was to consider revenues and appropriations for the ensuing fiscal year, 1935-1936, introduced a bill recommending that the appropriation to the health department be further reduced by \$125,000, making a total reduction of 60% in the original amount allotted for health work. Due to the splendid support given the State Health Officer by the medical profession throughout the State in making personal appeals to their Senators and Representatives, and also to the appreciative attitude of the Governor and a majority of the members of the Legislature, this recommendation of the recess committee was not concurred in. Consequently, the appropriation for health work remains at its former reduced figure, \$400,000 annually. This appropriation is, of course, subject to proration, in the event that the State's income does not justify the



payment of departmental allotments in full. The special appropriation of \$30,000 for caring for Pasteur treatments, including the manufacture of the vaccine, also remains intact.

#### CHANGES IN EXISTING HEALTH LAWS

As stated above, many of the existing health laws now on the statute books, because of their antiquity, obsolescence and even contradictiveness, were badly in need of revision. Five bills, seeking to modernise and remove these flaws, were carefully prepared and enacted into law at this session of the Legislature.

#### STABILISATION OF COUNTY HEALTH DEPARTMENTS

It is questionable whether a greater degree of appreciation on the part of the people as to the value of organised county health work exists anywhere in this country than is to be found in Alabama. As this is being written, 55 of Alabama's 67 counties are now enjoying full-time health service, which is one more than the maximum reached in 1932. Within the next few months, several more counties will likely complete financial arrangements for this service. This goal could never have been reached without the stimulus and financial participation on the part of the State, which must be continued. Because of the recognition of this need by our State in the building up of local health service, Alabama will find herself in an happy position to enjoy the first fruits of the Federal subsidy to states, the purpose of which is to develop within each of these political subdivisions what Alabama has striven to develop in each county. While all of this building up work has been done, in Alabama, on a voluntary basis, it was felt that the time had come to attempt to stabilise this much needed service by enacting permissive legislation whereby counties could appropriate definite and continuing amounts for the specific item of health work. This the Swift Bill, which was enacted into law at this session of the Legislature, seeks to accomplish.

#### UNIFORM NARCOTIC BILL

Uniformity of legislation for the several states is a desideratum, when dealing with any problem having important interstate implications. Uniformity is particularly

desirable in such matters as commerce, professional licensure and the control of traffic in narcotics. While this be true, a garment cut to fit one or more of the 48 states of the Union, might, without alterations to meet local conditions, illy fit some other state or states. The so-called "Model Narcotic Law" is an example in point. In so far as state control and participation are concerned, authority is definitely vested, by this bill, in the State Board of Health. Inasmuch as state boards of health vary widely in the various states as to their jurisdiction, composition and authority, these boards or their executive officer, when such legislation is under consideration for any particular state, should be given the opportunity of studying the proposed legislation in order to bring it in harmony with existing local conditions. In the case of the narcotic bill which was introduced into this session of Alabama's Legislature through the instrumentality of the Federal Narcotic Bureau, this privilege was not accorded the executive officer of the State Board of Health. After careful perusal and study of this already introduced bill, it was found that, in several particulars, it should be altered before its adoption by Alabama. Amendments to care for these changes were prepared, and after a conference held between Admiral Hobson, President of the World Narcotic Defense Association, and the State Health Officer, these amendments were agreed upon and became a part of the bill passed by the Legislature.

The sections amended were the following:

Section 15: This section provides that any court of competent jurisdiction, in which any physician, dentist, veterinarian, manufacturer, wholesaler or apothecary, has been convicted for a violation of any of the provisions of this act, shall have the power, in its discretion, to suspend or revoke the license of the convicted defendant.

In so far as licensed physicians in Alabama are concerned, the authority to issue and to revoke licenses is definitely lodged in the State Board of Medical Examiners, as set forth in the Medical Practice Act of the Code. Section 2847 of this act specifically enumerates, as one of the grounds for revocation of a license, violation of the Fed-

eral Narcotic Law. The soundness of this provision of the law, when dealing with professional licensure, is quite obvious and should be preserved inviolate. In order to preserve to the State Board of Medical Examiners the full authority now vested in it by law, the following amendment to this section was added:

"Provided further that this section shall not apply wherever any board is already, under existing statutes, vested with authority to suspend or revoke license because of violation of any Federal law regulating the use or disposition of narcotics.

Section 17: This section provides that a judge of any court of competent jurisdiction may make and file an order requiring a person, who has been legally adjudged an habitual user of habit forming drugs within the meaning of this section, to take and continue treatment, at his or her own expense if able to pay for same; otherwise at some hospital or institution owned by the State or the United States and at the expense of the State or the United States. The State has no such institution; nor is it, in the present depleted plight of its finances, in position to assume this responsibility. The congestion now existing in the institutions under Dr. Partlow's supervision is so great as to preclude acceptance of such cases in these hospitals. It would seem that it is quite more important for the State to first endeavour to make some sort of hospital provision for its thousands of cases of tuberculosis than to concentrate on this group of unfortunates. Where several problems present, their solution should be approached from the standpoint of relative importance.

*This section was amended so as to relieve the State of this responsibility.*

Section 20 of the "Model Bill" reads as follows:

"It is hereby made the duty of the State Board of Health, its agents, inspectors, officers and representatives, and all peace officers of the State, and all prosecuting attorneys, to enforce all provisions of this act, except those specifically delegated, and to cooperate with all agencies charged with the enforcement of the laws of the United States, this State, and all other States relating to narcotic drugs. All officers, agents, inspectors, and representatives of the State Board of Health engaged in the

enforcement of the provisions of this act, shall in addition to their respective positions be designated as "state police" and shall have the same authority as a deputy sheriff, to bear arms concealed or otherwise, and to make searches, seizures, and to arrest with or without warrants for any violation of the provisions of this act, and/or any other laws of the State of Alabama; provided, however, that such officers, agents, inspectors, and representatives, shall first furnish a bond of not less than \$1,000.00 approved by the State Board of Health, and made payable to the State of Alabama."

*This section was amended by preserving the first sentence and deleting the remainder of the section:*

To seek to make "State Police" of all officers, agents and inspectors of the Alabama State Board of Health, even to the point of bearing arms and of furnishing bond, would appear to be quite superfluous and unnecessary. Alabama hardly needs such ponderous artillery.

#### HOSPITAL INSURANCE BILL

It will be recalled that at the last annual meeting of the Association in Mobile the question of hospital insurance received serious consideration at the hands of the Board of Censors and of the Association. The Committee on Public Relations in its annual report recommended that the present ordinance regulating contract practice be so modified as to permit the working out of some ethical plan by the Association looking to this end. This was done and the Association's action in this matter will be found at page 70 of the August 1935 issue of the Journal. After the Mobile meeting a tentative bill, which had been prepared by the Alabama Hospital Association, was so modified, in conference with the State Health Officer, as to incorporate the principles previously enunciated and agreed upon by the State Medical Association. Before the introduction of the bill, conferences were had by its proponents both with the Governor and the State Commissioner of Insurance. While the bill met with some opposition in its passage through the Legislature, it was finally passed on the last legislative day. For the benefit of those interested, this bill is published in full below.



AN ACT

To authorize, provide for and regulate non-profit corporations for the establishment, maintenance and furnishing of a plan of hospitalization and hospital service.

*Be It Enacted by the Legislature of Alabama:*

Section 1. That the duly designated representatives of two or more hospitals organized for hospital purposes under the laws of the State of Alabama, or any hospitals engaged in a bona fide hospital business and which shall have been approved by the trustees of the Alabama Hospital Association and the State Board of Censors of the Medical Association of the State of Alabama as properly manned and equipped hospitals to render first class service as herein provided for, may constitute themselves a board of trustees for the purpose of incorporating a non-profit corporation to establish, maintain and operate a hospital service plan under which hospital care is to be furnished to such of the public who become subscribers to such plan under a contract which entitles each subscriber to hospital care.

Section 2. When two or more hospitals have designated representatives to join with each other in the incorporation of such corporation, such representatives acting as trustees shall prepare and file in the office of the Probate Judge of the County in which said corporation is to have its principal place of business, a certificate of their intention to become such a corporation, which certificate shall be signed by each of said trustees and shall set forth: (a) The name of the proposed corporation. (b) The objects and purposes for which the Corporation is organized. (c) The location of the principal office of the corporation in this State. (d) The names and postoffice addresses of each trustee and the hospital which designated him as a trustee. (e) The certificate may also contain any other provisions which the incorporators may desire to insert for the regulation of the business and affairs of the corporation, not inconsistent with the provisions of this Act. (f) Attached to the certificate of incorporation must be a certificate signed by the president and secretary of the Alabama State Hospital Association and a certificate signed by the secretary of the State Board of Censors of the Medical Association of the State of Alabama that each of said bodies has approved the hospitals forming said corporation as proper hospitals to render hospital service under the plan herein provided.

Section 3. Upon the filing in the said probate office of such a certificate, the trustees therein named and their successors shall become a body corporate for the purpose of establishing, maintaining and operating the hospital service plan as herein provided. Such certificates of incorporation may be amended at any time for the purpose of taking in or adding to its trustees the representatives of other hospitals provided such other hospitals are approved by the officers and trustees of the Alabama Hospital Association and the State Board of Censors of the Medical Association of the State of Alabama as herein provided. In or-

der to so amend the said certificate of incorporation the trustees of said corporation shall file in said probate office a certificate setting forth the names of the added hospitals and the names of the representatives of such hospitals accompanied by the certificates of the approval of said hospitals in like manner as provided or required in the original certificate of incorporation. It shall be the duty of the corporation so organized to furnish the Superintendent of Insurance a copy of its certificate of incorporation and a copy of each amendment thereto immediately after the same is filed.

Section 4. Any hospital doing business in the State of Alabama shall have the right to participate as a member of said corporation provided such hospital shall have been approved in writing as a proper hospital to render the service herein provided by the trustees of the Alabama Hospital Association and the State Board of Censors of the Medical Association of the State of Alabama.

Section 5. Every corporation organized under the provisions of this Act shall procure from the Superintendent of Insurance a certificate of authority to do business for which the corporation shall pay the sum of two hundred dollars (\$200.00), and such certificates of authority shall be renewed thereafter on or before the first day of March of each year. The corporation may then enter into contracts with the public, subject to the restrictions herein contained, for the rendering of hospital service. It shall be the duty of such corporation to issue certificates to those of the public who shall desire to avail themselves of the hospital service plan herein provided for, which certificates shall specify the hospital service which is proposed to be rendered, and such certificates may provide for more than one class of service, and such certificate shall state the retail value of all items or classes of service agreed to be furnished. Such certificates must also specify the charge or premium which is required to be paid for the services therein called for, and the purchaser of a certificate for group hospitalization will not be entitled to any of the benefits and privileges named in his certificate, until a period of sixty days after purchase date has elapsed. Each certificate shall carry a service date covering the full period of time paid for, and shall designate the person or persons, or class of persons, who shall be entitled to hospital service under said certificate and shall also designate the hospitals which are to render the services provided for in said certificate. Said certificate shall stipulate that the service therein provided shall not include any medical or surgical services. It shall also provide that any doctor may be selected by the certificate holder to treat him while a patient in the hospital provided the doctor selected is a reputable doctor and eligible for membership in his County Medical Society. No such corporation shall issue or sell any contract until the same shall have been approved in writing by the Superintendent of Insurance.

Section 6. Any holder in good standing of a certificate for such hospital service may select any hospital named in said certificate to render the necessary hospital service thereunder.

Section 7. The corporation organized under the provisions of this Act shall obtain from the Superintendent of Insurance a certificate of authority for every individual agent writing or soliciting hospital certificates for said corporation and only agents holding such certificates shall be authorized to solicit certificates for said corporation. For each certificate so issued the corporation shall pay to the Superintendent of Insurance the sum of five (\$5.00) dollars and such certificate shall be renewable in January of each year. It shall also be the duty of the corporation organized under the provisions of this Act to file with the Superintendent of Insurance two copies of all certificates which the said corporation proposes to issue or sell in this State.

Section 8. The rates, charges and premiums to be charged the public for the hospital service and for the certificates therefor, and the certificates and benefits thereunder, herein provided for shall at all times be subject to the approval of the Superintendent of Insurance, and shall be adequate to meet the liability assumed under such contracts and all expenses incurred in connection therewith. The Trustees of the Alabama Hospital Association in conjunction with the State Board of Censors of the Medical Association of the State of Alabama shall have the right, subject to the approval of the Superintendent of Insurance, to prescribe reasonable rules and regulations under and by which all certificate holders can procure the services herein provided for. The Superintendent of Insurance or any of his designated deputies or examiners shall have the power of visitation and examination into the affairs of any such corporation and shall have free access to all books, papers and documents that relate to the business of said corporation and may summon and qualify witnesses under oath, to examine them in relation to the affairs, transactions and conditions of the corporation. Such examination shall be made at the expense of the corporation. The acquisition cost in connection with the solicitation of subscribers to said hospital plan shall be subject to the approval of the Superintendent of Insurance.

Section 9. Every such corporation shall deposit with and thereafter maintain on deposit with the Treasurer of the State of Alabama bonds of the United States Government or of the State of Alabama, or of any subdivision thereof, or first mortgages on real estate situated in Alabama securing an indebtedness not in excess of fifty (50%) per cent of the appraised value thereof, subject to the approval of the Superintendent of Insurance, in an amount to be determined as of the 1st day of January of each year as follows: Every such company whose gross annual premium receipts from business done within this State for the preceding year ending December 31st are less than \$50,000 shall so deposit and maintain such securities of par and market value not less than \$5,000.00; every such company whose such gross annual premium receipts so computed are in excess of \$50,000 and less than \$150,000 shall so deposit and maintain such securities of par and market value not less than \$10,000.00; every such company whose such gross annual premium receipts so com-

puted are in excess of \$150,000.00 and less than \$250,000.00 shall so deposit and maintain such securities of par and market value not less than \$15,000.00; every such company whose such gross annual premium receipts so computed shall exceed the sum of \$250,000 shall so deposit and maintain such securities of a par and market value of not less than \$20,000.00; Provided that before any such company shall be licensed to or shall engage in any business in this State it shall so make an initial deposit of such securities of a par and market value not less than \$3,000.00. The securities so deposited may from time to time with the approval of the Superintendent of Insurance and the State Treasurer be substituted for other authorized securities of equal value. The deposit so maintained shall constitute a trust fund primarily for the security of persons holding certificates or policies of such company.

Section 10. All decisions and findings of the Superintendent of Insurance, the State Board of Censors of the Medical Association of the State of Alabama and of the Alabama State Hospital Association made under the provisions of this Act shall be subject to revision by proper proceedings in a court of competent jurisdiction.

Section 11. On or before the 1st day of March of each year every such company transacting business in this State shall file with the Superintendent of Insurance a statement showing the amount of gross premiums received by it for business done in this State during the preceding calendar year ending December 31st, less return premiums, and the number of contracts, certificates or policies outstanding, at which time every such company shall pay to the Superintendent of Insurance one dollar (\$1.00) for each one hundred dollars (\$100.00) of such gross premiums, less return premiums.

Section 11. All certificates issued must contain a provision to the effect that in the event the holder in good standing, becomes an emergency case in territory other than in the State of Alabama in which he resides and requires hospitalization as an emergency case, the corporation will pay to the hospital in such territory the same sum that it would have paid a hospital selected by the certificate holder and located in the State of Alabama, his residence, had he been treated in such hospital in the State of Alabama.

Section 12. The corporation shall annually on or before the first day of March file in the office of the Superintendent of Insurance a statement verified by at least two of the principal officers of said corporation showing its condition on the 31st day of December then next preceding, which shall be in such form and shall contain such matters as the Superintendent of Insurance shall prescribe. Every such corporation shall charge as the liability for reinsurance, or reinsurance reserve fund, of all outstanding certificates or policies fifty per cent of the premiums or charges received on policies or certificates having not more than one year to run, and on certificates or policies having more than one year to run, such a proportion of the total premiums as the unexpired portion of the term bears to the entire term, subject to a minimum of fifty



per cent of the regular premium for one year. Every such corporation shall at all times hold assets equal to such aggregate amount so computed over and above all other liabilities.

Section 13. This Act shall be liberally construed in order to accomplish the beneficial purposes sought, by making it possible for persons of limited means to obtain adequate hospital care when the same is required. Should any part of

this Act be declared unconstitutional by any court, such decision shall not affect the remainder thereof.

Section 14. All laws and parts of laws in conflict with this Act are, for the purpose of giving effect to this Act, hereby repealed.

Section 15. This Act shall take effect immediately.

Approved September 14, 1935.

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## DEPARTMENT OF PUBLIC HEALTH

### BUREAU OF ADMINISTRATION

J. N. Baker, M. D.  
State Health Officer in Charge

#### SURVEY OF CHRONIC ILLNESS

Alabama has been chosen one of 19 states in which the United States Public Health Service is to sponsor a survey of chronic illness and physical impairments. It is expected that the survey will begin about October 15. It will be confined to the following cities:

Birmingham  
Montgomery  
Anniston  
Greenville  
Eufaula

A house-to-house canvass will be made to obtain data on chronic diseases and physical impairments, the duration of disability caused by the diseases, and a record of factors bearing on health, such as occupation, housing conditions, and medical care received for illness. Families canvassed will be selected to be representative of the general population of various income levels.

Little information is available on the extent and severity of chronic diseases in the general population. Data of this kind are much needed for determining the relative prevalence of various types of these diseases, their variations with geographic location, age, sex and occupation, and in particular the extent of disability and unemployment caused by chronic diseases and resulting physical impairments. The whole problem is becoming increasingly important with the gradual rise in the percentage of the population over sixty years of age.

It is expected that the survey will take about five months. The information ob-

tained by enumerators will be recorded on questionnaire forms. The questionnaires will be checked for completeness before they are sent to a central tabulation center. Enumerators used in the survey will be selected from the list of "white collar workers" maintained by the National Re-employment Service. They will be given a short, intensive course of training in the work of enumeration before the survey is begun.

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### BUREAU OF LABORATORIES

James G. McAlpine, Ph.D., Director

#### SNAKES AND ANTIVENIN

##### III. VENOMS

From the theoretical aspect all snakes should be considered poisonous because of the similarity in their anatomic and physiologic constitution. All have a gland corresponding to the parotid in mammals which yields a toxic secretion called venom. However, only a relatively few snakes are really poisonous because the rest do neither secrete an amount of venom sufficient to cause lesions nor inoculate their poisons deeply enough in the tissues.

The amount of venom secreted varies with the species and is somewhat dependent upon the size and age of the snake. On the other hand, Stadelman<sup>1</sup> has shown that new-born copperheads "only six hours old are in possession of a completely functional venom apparatus capable of inoculating a dangerous amount of venom, particularly if the victim be very young or in poor

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\*The concluding portion of two articles on the subject. The first appeared in the September number.

1. Stadelman, R. E.: The Poisoning Power of the New-Born Copperhead, with Case Report, Bull. Antivenin Inst. Amer. 2: 67-69, October 1928.

condition." His experiments were made on humans and mice. Since venom is one of the snake's digestive juices, the amount secreted if the snake bites after a meal is very small or nil. This is probably the reason why many people who have been bitten have suffered little or no reaction even in the absence of treatment.

Snake venoms are yellow liquids, viscid in character, which dry down on exposure to air to a yellowish glistening mass resembling dried gelatine. The dried product will retain its original characteristics for years and can be readily dissolved in water. Like toxins, the venoms are highly complex mixtures; they contain proteins and salts, but, unlike toxins, mucus, fatty matters, and epithelial debris are present. They are usually classified among the proteins because they give all the reactions of that group of substances.

Do Amaral<sup>2</sup> states "there seems to be some adaptation of the toxicity of venoms to the species of animals on which snakes feed. Venom is one of the snake's digestive juices, and I believe that some differentiation in their action on the tissues of the particular animal which the snake is accustomed to capture has taken place during the phylogenetic evolution of the latter." Each species of snake has a venom which is peculiar to that particular species. However, there are certain similarities between the venoms of closely related species. Githens and Butz<sup>3</sup> have shown that the venoms of six species of North American rattlesnakes contained "identical or almost identical toxic principles" and that those of the copperhead and moccasin are "identical or almost so but differ to some extent from those of the rattlesnake." The work of Githens and George<sup>4</sup> has demonstrated that the venoms of the various rattlesnakes produce similar symptoms but the difference in toxicity may be used as a basis for sub-

stantiating the nomenclature and classification of the snakes themselves.

The various venoms act differently on the body. For instance, after a rattlesnake bite there is a tissue reaction at the site of injury with more or less severe pain; the walls of the blood vessels are rendered more permeable, allowing the blood to escape and local hemorrhages to be formed. Small amounts of the venom cause the blood to clot while larger amounts prevent it, and the red cells are dissolved. A neurotoxin is present causing paralytic symptoms and degenerative changes of both the sensory and motor cells of the spinal cord. The kidneys are usually affected because the secretory cells are injured.

Venoms like bacterial toxins cause the production of neutralizing substances when injected into an animal. However, as Do Amaral<sup>1</sup> has pointed out, "there is some difference between snake venoms and bacterial exotoxins. As a rule, the former do not show any incubation period; that is to say, there usually is no delay in the occurrence of symptoms after their administration as is the case with the latter (exotoxins)."

#### IV. ANTIVENINS

Antivenins which are prepared by injecting horses or other animals, with carefully graduated doses of snake venom, are the only specific products which can be used for neutralizing the effects of venoms. Horses are by far the best animals to use for this purpose because they are easy to handle and readily produce antibodies in high concentration. The injections are made subcutaneously every few days, beginning with small amounts and gradually increasing the doses. When the tolerance of the horse becomes such that it will be unaffected by doses which would be several hundred times the minimum lethal dose for a normal horse, they are bled. The serum is then separated, concentrated by chemical means which remove most of the protein, and ampouled. This is commercial antivenin.

As in antitoxin production the standardization of antivenin is a most important process. For diphtheria and tetanus toxin and antitoxin standardization guinea pigs are used, but in most instances the pigeon is the acceptable animal for measuring the po-

2. Do Amaral, A.: Venoms and Antivenins. Jordan, E. O. and Falk, I. S., *The Newer Knowledge of Bacteriology and Immunology*, Univ. Chicago Press, Chicago, 1928.

3. Githens, T. S. and Butz, L. W.: Venoms of North American Snakes and Their Relationship, *Bull. Antivenin Inst. Amer.* 2: 100-104, February 1929.

4. Githens, T. S. and George, I. D.: Comparative Studies on the Venoms of Certain Rattlesnakes, *Bull. Antivenin Inst. Amer.* 5: 31-34, September 1931.



tency of venoms and antivenins. Because it is injected intravenously, it has the disadvantage that it cannot be used for venoms which possess a direct blood-coagulant action.

Commercial snake antivenin which is on sale in the United States is polyvalent in character. It contains protective or neutralizing antibodies against the venoms of the rattlesnake, copperhead and moccasin. Also, as has been stated, it is useless following the bite of the coral snake. This should always be considered when its administration is contemplated. Since the coral snake has a distinctive appearance little trouble should be encountered in identifying it when it is the offender.

#### V. TREATMENT

Since most snake bites occur far from immediate medical aid, the general public should be made conscious of first aid measures. These consist of the application of a tourniquet which may consist of a handkerchief, garter or cord. It should not be applied too tightly but should be sufficient to deter the poison from getting into the general circulation. Because of the fact that gangrene may result, the tourniquet should be released at 10-15 minute intervals.

Cross-cut incisions should be made at each fang mark. Suction should then be applied. In most cases it is necessary to use the mouth if there are no abrasions or sores of the mouth and tongue. Suction should be carried out as frequently as possible until the antivenin is injected. As little exercise as possible should be taken and under no circumstances should alcohol be administered. The old adage that alcohol is a sovereign remedy for snake bite has proven fallacious.

When antivenin is available, it should be injected into the site of the bite along the edge of the swelling. When the bite is on the hand or wrist, it may be given into the deltoid muscle; if on the foot or ankle into the muscles of the thigh. In severe cases as much as 50 cc. will be necessary. Sometimes one or two doses of antivenin intramuscularly are indicated when the pain is intense and neurotoxic symptoms are evident. Intravenous injections have proven valuable, but serum sensitivity must always be considered.

## BUREAU OF PREVENTABLE DISEASE CONTROL

D. G. Gill, M. D., Director

### WHOOPING COUGH

Among the so-called childhood diseases whooping cough still holds a leading place as a cause of morbidity and mortality. In a review of the trend of the four most important infectious diseases of childhood (diphtheria, scarlet fever, whooping cough and measles) the Epidemiological Report of the Health Section of the League of Nations<sup>1</sup> shows that there has been a decrease in all four diseases, but that the decrease has been more rapid in scarlet fever and diphtheria so that whooping cough has relatively increased its importance and is now responsible for more than a third of the deaths from these causes.

As regards age distribution, whooping cough is most deadly in the very young and more than fifty per cent of the deaths occur during the first year of life, although the ages 5-6 are responsible for the largest number of cases. Before reaching adult life it is estimated that seventy-five to eighty per cent of children have had whooping cough.

Here in Alabama there has not been any noticeable decrease in the number of cases reported, but it is recognized that whooping cough is one of the diseases in which the morbidity figures are least reliable. Many cases do not see a physician and physicians have been lax in reporting the cases seen. The mortality has varied rather widely from year to year, but on the whole there has been some downward trend. The disease shows some seasonal variation with the spring months having the highest incidence. Complications which are to be feared in this disease are more prevalent in the colder months.

In recent years extensive efforts have been made to find some means of prevention against this disease and most of the attempts have been directed towards the manufacture of a satisfactory vaccine. Early vaccines did not give particularly convincing results, and, as a result, all the vaccines fell into disrepute. Study went on, however, and newer vaccines were produced

1. Epidemiological Report, Health Commission, League of Nations, R. E. 173 (May-June) 1934.

which seem to be creating a real immunity to the disease. The lack of a satisfactory immunity test has hampered the work as results could only be determined by following a large enough series of children over a long period of time and through recognizable exposure.

The laboratory technic in the production of the vaccine varies with different workers and similarly the recommended dosage varies with the product. Standardization will probably come, but in the meantime sufficiently encouraging results are being obtained to warrant a larger clinical application.

#### WHAT CONSTITUTES A WASSERMANN-FAST CASE?

A patient who has been given twenty or more injections of neoarsphenamine, accompanied by twenty injections or more of bismuth or mercury, and whose blood serologic test remains positive may be classified as a Wassermann-fast case. This fixed positive blood serologic test may be interpreted in two different ways. First, it may be the result of persistent minute obscure foci of spirochetes in a hidden location. Or it may be regarded as a permanent metabolic change in tissue previously infected with syphilis but perhaps no longer harboring the organisms. If this Wassermann fastness results from persistent spirochete foci then the positive test means an active defense, with the organisms in the process of destruction. If the fixed positive be interpreted as a tissue change, then the positive test may be regarded as a species of scar that has resulted from the luetic infection.

But a fixed positive serologic test should act as a stimulus to the attending physician to examine carefully the patient for symptoms and signs of a continued infection. The finding of these signs and symptoms may give the clue to the proper method of approach and the type of treatment necessary to render the patient Wassermann negative and spirochete free.

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**Amebiasis**—With the drugs now available, i. e., chiniofon, carbarsone or vioform, the vast majority of infections (amebiasis) can be eradicated, thus preventing the spread of the infection to others and the possibility of the development of serious lesions and symptoms in the infected individual.—Craig, New Orleans M. & S. J., Oct. '35.

## BUREAU OF VITAL STATISTICS

Leonard V. Phelps, Director

### MORTALITY FROM MOTOR VEHICLE ACCIDENTS IN ALABAMA, 1934

In 1934, there was 521 deaths from motor vehicle accidents. This figure represents an increase of 41 or 8.5 per cent, compared with the mean annual number of deaths (480) for the two preceding years, 1932-1933, and 27 more deaths than in 1933. Although the total number of automobile fatalities represents less than 2 per cent of the deaths from all causes, the important point to remember is that practically all such deaths can be prevented.

We are now entering the season when most automobile fatalities occur. During the three-year period, 1932-1934, about one-third of all motor vehicle deaths occurred during the last quarter of the year. The month in which the maximum number of deaths took place was November in 1933 and 1934 and September in 1932. October showed the second highest number in 1932 and 1933. If the average number of deaths (1932-1934) for each quarter of the year be taken, the number increases progressively, beginning with the first quarter, reaching a maximum in the last quarter.

Number Of Deaths From Motor Vehicle Accidents  
For Each Quarter Of The Year:  
Alabama, 1932-1934

	Number of Deaths				
	Total	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
1932	425	93	92	117	123
1933	494	78	90	137	189
1934	521	117	130	120	154
Mean Annual Number 1932-1934	480	96	104	125	155

Motor vehicles are an important cause of death in each age group. For three consecutive years the greatest number of deaths have occurred in the age group (25-44 years); the second largest number at (15-24 years); the third at (45-64 years).

The death rate per 100,000 population in the entire state (motor vehicle) was 18.9 in 1934, compared with 18.0 in 1933. The



death rate in places of less than 10,000 population (20.1 per 100,000 population) was greater than for the remainder of the State (15.3).

Number Of Deaths From Motor Vehicle Accidents  
According To Age Of Decedent:  
Alabama, 1932-1934

Age Group	Number of Deaths			
	Mean An- nual Number 1932-'34	1932	1933	1934
All ages .....	480	425	494	521
Under 5 years.....	20	19	21	19
5-14 years .....	56	43	59	67
15-24 years .....	113	100	123	117
25-44 years .....	142	126	136	163
45-64 years .....	104	98	103	112
65 years & over ..	44	39	51	41
Age unknown .....	1	0	1	2

Of the 521 deaths, 165, or about 32 per cent, were caused by the collision of an automobile with a pedestrian. It is of interest to note that of the 137 colored deaths, 54, or almost 40 per cent, were of this type. Fewer such deaths would occur if pedestrians, particularly in rural districts, would refrain from walking on the roadway, especially at night or when visibility is poor. In cities, the observance of simple traffic rules would eliminate many such deaths. About one-fifth of all automobile deaths were the result of one automobile in collision with another.

Deaths from motor vehicle accidents are rapidly increasing each year. If the human factor can be controlled most of them can be prevented. Those who are interested in accident prevention should cooperate through educational and law enforcement programs in eliminating this unnecessary loss of life.

The blame in most instances rests with the driver. The emphasis which has been placed upon power and speed by automobile manufacturers and the placing of high powered cars on the road has completely offset efforts to reduce the number of fatalities by removing curves, and straightening and paving roads. Many drivers, who, in the past, did not drive over 45 or 50 miles per hour, are now driving 60 and 65 miles per hour.

It is not possible to postulate exactly what "safe speed" is, because it will vary according to circumstances. Extra precau-

tions should be taken by the driver in wet weather, when the roads are slippery and especially at this time of the year when falling leaves make them more slippery. Excessive speed should be avoided when visibility is poor. It has been suggested by some safety authorities that a maximum speed limit of 45 miles per hour be enforced on main highways in order to overcome the unnecessary destruction of human life.

Charles A. Harnet, New York's Commissioner of Motor Vehicles, maintains that control of speed by statute is nearly impossible and suggests curbing it at the source by putting a governor or mechanical device on each vehicle, limiting the speed to 50 miles per hour. He further contends that the faster the vehicles are moving, the more serious the result when an accident occurs.

In 1934, over one-third of all motor vehicle deaths in Alabama were of the type described as "non-collision operating" — that is, accidents in which only one car was involved, such as a car, through loss of control, turning over on the highway. No doubt, many accidents of this type were the result of excessive speeding.

## BUREAU OF SANITATION

G. H. Hazlehurst, Director

### METHODS COMMONLY USED FOR DISINFECTION AND ALGAE CONTROL IN SWIMMING POOLS

*Disinfection:* The addition of chlorine, either as a gas or as a water solution, by the use of proper apparatus is probably the most satisfactory method of swimming pool disinfection. It is possible not only to disinfect completely the entire body of water in the pool with chlorine but also maintain in the pool water at all times a residual amount of disinfectant to immediately sterilize any dangerous pollution disseminated by bathers. Approximately  $\frac{1}{2}$  pound of the pure chlorine will be required per 100,000 gallons of water daily. Care must be exercised to avoid a sufficient concentration to irritate the eyes and noses of bathers. A residual of .2 to .5 p.p.m. as determined by the orthotolidin test should be maintained in the water at all times.

Next to treatment with chlorine as a gas or water solution, application of solutions of hypochlorite of lime or hypochlorite of soda, by the use of proper apparatus, is the most effective method of swimming pool disinfection.

Intermittent disinfection with hypochlorites as practiced at many pools is considered a makeshift. It is possible to obtain satisfactory disinfection by intermittent application of these chemicals and to maintain a satisfactory residual chlorine content in the water when the bathing load is constant and not too high. When the bathing load is excessive or fluctuates widely, immediate disinfection of infectious matters from bathers may not be accomplished by this method.

The amount of hypochlorite necessary for pool disinfection varies with the strength of the chemical. About  $1\frac{1}{2}$  pounds of ordinary chlorinated lime or bleaching powder, which is 25 to 35 per cent chlorine, per 100,000 gallons of water daily is required. When stronger hypochlorites such as H. T. H. (high test hypochlorite) are used, lesser amounts are required depending, of course, upon the per cent by weight of available chlorine.

*Algae Control:* In out-door pools where sunlight is not excluded considerable trouble is sometimes encountered from algal growths (moss or plant growths).

Copper sulphate or blue stone is a common and effective algicide. It is introduced into the pool in sufficient concentration to make it effective as an algicide only, and not as a disinfectant. About 0.1 to 0.25 parts per million (1 to 2 pounds per million gallons of water) are usually sufficient to kill the majority of the most troublesome microscopic organisms found in this state. It may be dissolved in the water by towing it in canvas bags across or around the pool or lake being treated. For large pools a boat may be necessary. For small pools it might be dragged across the water surface at the end of a cord, by hand from the shoreline or walkway around the pool.

In recent years chlorine has been substituted in some instances. It generally requires 3 to 10 times as much chlorine as it does copper sulphate, however, for the same effectiveness.

Either chemical should be used more as a preventive rather than as a removal agent.

Before using larger quantities of copper sulphate than 5 pounds per million gallons of water, the operators, or those responsible for the operation of the pool, should consult with this department.

T. H. M.

## CURRENT STATISTICS

### \*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

	July	August	Estimated Expectancy August
Typhoid	107	69	186
Typhus	44	70	12
Malaria	1108	2493	712
Smallpox	0	1	2
Measles	63	26	64
Scarlet fever	42	34	71
Whooping cough	87	60	102
Diphtheria	82	104	109
Influenza	40	54	26
Mumps	30	28	23
Poliomyelitis	15	9	4
Encephalitis	0	4	1
Chickenpox	9	6	12
Tetanus	8	2	6
Tuberculosis	273	265	370
Pellagra	89	49	66
Meningitis	4	2	4
Pneumonia	59	56	59
Syphilis	691	858	161
Chancroid	13	13	8
Gonorrhea	357	470	172
Ophthalmia neonatorum	4	1	1
Trachoma	0	0	1
Tularemia	1	0	0
Undulant fever	10	7	3
Dengue	63	17	0
Amebic dysentery	3	6	0
Rabies—Human cases	0	0	
Positive animal heads	74	62	

\*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years. With the venereal diseases, clinic cases were not included prior to this year.

**Prognosis of Syphilis**—The ideal patient to resist syphilis is the individual of sound body and good physical inheritance who lives a rational life. There is no doubt that natural resistance is variable and does exist; but the patients in whom we usually see the most vicious syphilis are our dissipated vagabonds, the reckless man about town without domestic obligations or the sense of responsibility for them, who has not the intelligence or the will to follow instructions. When he reaches middle life his syphilis produces destruction in his central nervous system, his arteries, liver, or other important structures and he pays for his indiscretions. The great Osler put syphilis down as first among all the medical causes of death. At best then, the future of the syphilitic is studied with anxiety.—Bondurant, South. M. J., Oct. '35.





MRS. JAMES L. JORDAN  
Huntsville, Ala.  
State President 1935-36

### *Woman's Auxiliary*

Mrs. Thos. E. Dilworth  
*State Publicity Chairman*  
Huntsville, Ala.

With deep appreciation of the honor bestowed upon her, of the confidence demonstrated in choosing her for the highest office in the Auxiliary and pledging her most sincere and earnest efforts to steer a worthy course, Mrs. James L. Jordan of Huntsville, Alabama, was installed as our State President at the annual convention in Mobile on April 17th, 1935.

Mrs. Jordan expressed sincere thanks for the kindness and interest shown her by our beloved Past-President, Mrs. Denson, and mentioned the tremendous value the office of President-Elect has for its incumbent, the year of preparation being one full of opportunity, a wonderful period of training. She also put a stress on the social or friendly side of the Auxiliary, expressing an opinion that it has no finer attribute than the mutual understanding of one another as doctors' wives.

For the year 1935, the following officers and chairmen were elected and appointed:



## OFFICERS

- President*—Mrs. James L. Jordan, 499 McClung St., Huntsville, Ala.  
*President-Elect*—Mrs. L. W. Roe, 16 S. Arm St., Mobile, Ala.  
*First Vice-President*—Mrs. E. V. Caldwell, Adams Ave., Huntsville, Ala.  
*Second Vice-President*—Mrs. E. M. Norton, 674 Maple St., Fairfield, Ala.  
*Third Vice-President*—Mrs. J. F. Rowe, S. Arm St., Mobile, Ala.  
*Fourth Vice-President*—Mrs. T. J. Brothers, An-niston, Ala.  
*Recording Secretary*—Mrs. L. L. Hill, Jr., Mont-gomery, Ala.  
*Corresponding Secretary*—Mrs. T. E. Dilworth, Whitesburg Drive, Huntsville, Ala.  
*Treasurer*—Mrs. W. M. McKissack, Randolph St., Huntsville, Ala.  
*Auditor*—Mrs. S. P. Wainwright, Birmingham, Ala.  
*Advisory Council*—Dr. Carl A. Grote, Huntsville, Ala.; Dr. Lee W. Roe, 16 S. Arm St., Mobile, Ala.; Dr. F. H. Denson, Route No. 2, Bessemer, Ala.

## COMMITTEE CHAIRMEN

- Public Relations*—Mrs. Ralph Smith, 315 Poinci-ana Drive, Birmingham, Ala.  
*Lettie Daffin Perdue Fund*—Mrs. E. S. S'edge, 1107 Montauk Ave., Mobile, Ala.  
*Revisions*—Mrs. M. M. Duncan, Franklin St., Huntsville, Ala.  
*Hygeia*—Mrs. Ollie Wikle, Madison, Ala.  
*Program*—Mrs. H. W. Allgood, 5604 Parkway, Fairfield, Ala.  
*Historian*—Mrs. J. R. Horn, 1426 Clarendon Ave., Bessemer, Ala.  
*Jane Todd Crawford*—Mrs. Andrew G. Finley, Guntersville, Ala.  
*Memorial*—Mrs. W. G. McCown, Locust St., Hunts-ville, Ala.  
*Archives*—Mrs. W. B. Majors, 933 8th Ave. West, Birmingham, Ala.  
*Research of Medicine*—Mrs. H. R. Farmer, 680 Noland Place, Fairfield, Ala.

At an executive meeting held at the Rus-sel Erskine Hotel on May 15, it was voted that we send our State President to the national convention in Atlantic City in June.

Returning from Atlantic City where she had the honor of responding to the address of welcome and was appointed chairman of revisions for the national body, Mrs. Jor-dan issued a report of the convention as follows: "A continuation of the Public Re-lations Educational Program, that all aux-iliaries continue co-operation with local P. T. A. groups by urging periodic health examinations of school children in the of-fice of the family physician in preference

to mass clinics, the promotion of Hygeia exhibits at county and state fairs, with aux-iliaries as hostesses, distributing American Medical Association health literature, and that the National Auxiliary recommend to the states that each state observe annually a day to be set aside as 'Doctors' Day.' "

Mrs. Jordan had the pleasure of seeing our own Dr. James S. McLester of Birming-ham installed as President of the Ameri-can Medical Association.

Our President mentioned her pride at the exhibit of the Jefferson County Auxiliary. This is a large silver loving cup, given for outstanding health work in the schools of Jefferson County.

This convention was an inspiration to our President and we are looking forward to a most outstanding year for the Woman's Auxiliary to the Alabama State Medical As-sociation.

\* \* \*

The Woman's Auxiliary to the Southern Medical Association will meet in St. Louis, Missouri, November 20 and 21. The wom-en attending the Southern Medical Associa-tion are invited to the Auxiliary meetings.

Each state auxiliary is entitled to send its president, two delegates and two alter-nates, to form, with the executive board, the voting body. Members and eligible mem-bers of county auxiliaries in the states are very cordially invited to attend the lunch-eon meeting Wednesday, November 20th, at 12:30 P.M. and the board meeting No-vember 21st at 9:30 A. M. The business sessions are to be conducted on a schedule, allowing time for social arrangements.

For the development of the Auxiliary it is important for members and eligible mem-bers to be present, because the foundation of an organization rests on its membership and future leaderships come from it.

TWENTY-NINTH ANNUAL MEETING

SOUTHERN MEDICAL ASSOCIATION

ST. LOUIS, MISSOURI

NOVEMBER 19-22, 1935



# THE JOURNAL

OF

## The Medical Association of The State of Alabama

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### SOME OBSERVATIONS ON RETINAL DETACHMENTS\*

EDWARD NICHOLAS DeWITT, M.D.,  
Bridgeport, Connecticut

Detached retinæ have been operated upon, occasionally, for more than a half century, but, until recently, by comparatively few operators and with very few successes. Most cases were treated by rest in bed and sweating induced by pilocarpine; but even that form of treatment was given up, largely because of lack of permanence in the reattachment if it occurred. Many able ophthalmologists came to advise their patients with retinal detachment to have no treatment at all unless the detachment was recent and all conditions favorable.

During the past five years detachment of the retina has been the subject of much study and experimentation,<sup>1,2</sup> due in large part to the remarkable operative results obtained by Prof. Gonin,<sup>3,4,5,6,7</sup> reports of

which spread rapidly throughout the ophthalmic world. Many eye surgeons, encouraged by Gonin's success,<sup>8</sup> began operating for this malady, but their results were not entirely satisfactory and many of them were discouraging. There was then a period of change in the technique of operation; but the changes did not, upon the whole, produce better results. The importance or non-importance of a tear or rent in the retina was under long debate; and then followed a period of new operations with the use of chemicals<sup>9</sup> instead of ignipuncture. Enthusiasm for operating dwindled. There was more sober thinking and less operating; for there often seemed to be more to contend with than just a detached retina. More recently diathermy,<sup>10,11,12,13</sup> endothermy, or endothermic cauterization

\*Presented to the Association in annual session, Mobile, April 17, 1935.

1. Ramon Castroviejo: Experimental detachment of the retina, *American Journal of Ophthalmology*. Series 3. Vol. 17. No. 12 (Pages 1112 to 1117).

2. Leo J. Mayer: An experimental study of detachment of the retina and its surgical therapy, *Transactions of the American Academy of Ophthalmology and Oto-Laryngology*. (Pages 89 to 105).

3. Jules Gonin: Remarks and comments on 240 cases of retinal detachment treated for the most part by operating, *Tire a part due "Schweizer Medizinisches Jahrbuch 1930."* Benno Schwabe & Co., Editeurs, Bale.

4. Jules Gonin: Detachment of retina and its treatment, *Transactions of the Ophthalmological Society of the United Kingdom*. Vol. L. (Pages 5331 to 5337.) 1930.

5. Jules Gonin: Le décollement de la rétine et son traitement. *Tire a part du "Schweizer Medizinisches Jahrbuch 1931."* Benno Schwabe & Co., Editeurs, Bale.

6. Jules Gonin: Obliterating thermopuncture of tears in detachment of the retina, *Tire a part du "Schweizer Medizinisches Jahrbuch 1931."* Benno Schwabe & Co., Editeurs, Bale.

7. Jules Gonin: Results of the obliterating thermopuncture of retinal tears, *Tire a part du "Schweizer Medizinisches Jahrbuch 1932."* Benno Schwabe & Co., Editeurs, Bale.

8. Marc Amsler: La thermo-ponction oblitérante, *Bulletin de la Société d'ophtalmologie de Paris*. Seance due 15 Febrier, 1930.

9. G. Guist: *Zeit. F. Augenhk.* Vol. 74, (Page 232) June 1931.

10. C. D. Shapland: Diathermy in the treatment of detachment of the retina, *Transactions of the Ophthalmological Society of the United Kingdom*. Vol. LIII. (Pages 127 to 141). 1933.

11. M. Hayward Post: Diathermy in retinal detachment, *American Journal of Ophthalmology*. Series 3. Vol. 17. No. 12. (Pages 1122 to 1125).

12. Arnold Knapp: The operative treatment of retinal detachment with electro-coagulation, *Transactions of the American Ophthalmological Society*. Vol. XXXI. (Pages 195 to 213). 1933.

13. Clifford B. Walker: Retinal detachment, *American Journal of Ophthalmology*. Pages 1 to 17. January 1934.

has been introduced. One method, which corresponds in principle to that of Gonin's cautery puncture, was introduced by Weve<sup>14</sup> of Utrecht. Another method, introduced by Larsson<sup>15</sup> of Stockholm, is essentially a surface method corresponding in principle to that of the Guist operation, and has been largely used in Moorfields. Recent contributions by Gonin, Vogt, Lindner, Amsler, Knapp, Cowan and McAndrews,<sup>16</sup> Schoenberg,<sup>17</sup> Walker, Weve, Larsson, Safer, and others,<sup>18,19</sup> have greatly stimulated the study of detached retinæ and the attempt to improve the end results obtained by operation.

#### PATHOLOGY OF DETACHMENT OF RETINA

According to Gonin,<sup>4</sup> the production of tears is due to the vitreous humor dragging on the retina at the site of previous adhesions between those tissues; adhesions formed in the neighborhood of disseminated foci of chorioretinitis which are frequent in myopic and senile eyes. Samuels,<sup>20</sup> in his contribution on cystic degeneration of the retina, states that it is more frequently encountered in detached retinæ than in those in situ. Magitot and Finnoff are of the same opinion. Cystic degenera-

tion of the retina occurs in a great variety of eye diseases, such as inflammatory conditions of the uvea, choroid and retina; toxemia, systemic diseases, functional disturbances, circulatory diseases, trauma, tumors, etc. In senile eyes, as well as in highly myopic eyes, there is nearly always some form of vitreous degeneration, such as the formation of holes or lacuna, shrinkage or partial liquefaction of the gel mass,<sup>21</sup> causing pressure on the vitreous fibers which are directly continuous with Mueller's fibers and the internal limiting membrane. Inflammation and exudate in the vitreous tend to form fibrous bands within the vitreous which in turn cause a pull on the retina.

The anatomic characteristics of the retinal vessels show the latter to be morphologically equivalent to the terminal arterioles of the other organs. As is well known, the main blood supply of the inner half of the retina comes from the vessels in the nerve fiber layer, while the blood supply of the outer half comes from the choriocapillaris. When the retina, especially its outer half, has been cut off from its blood supply for a long period it does not readily regain its normal function.

In Prof. Gonin's earliest writings on this subject, he stressed a most important fact; namely, that a tear in the retina is a necessary factor in the cause of most detachments. This fact was not appreciated until ophthalmologists began searching for the tear diligently and painstakingly, using systematic methods.<sup>16,17</sup> Now, more than ninety per cent of detachments are found to show retinal tears of one kind or another. These tears have been classified by Dr. Shapland,<sup>18</sup> as follows:

1. Disinsertion at the ora serrata. (Fig. I.)
2. Round or punched out holes. (Fig. II.)
3. Arrow-head or horseshoe-shaped rents. (Fig. III.)
4. Radial slit-like tears. (Fig. IV.)
5. Irregular rents. (Fig. V.)

14. H. Weve: Zur Behandlung der Netzhantablösung, Mittels Diathermie. Berlin. S. Karger. 1932.

15. S. Larsson: Electro-endothermy in detachment of the retina, Archives of Ophthalmology. Pages 661 to 680. May 1932.

16. Alfred Cowan and Leo F. McAndrews: Retinal detachment. A method of accurate'y localizing tears, Archives of Ophthalmology. Vol. V. No. 5. May 1931.

17. Mark J. Schoenberg: The Gonin operation for detachment of the retina, Archives of Ophthalmology. Vol. III. No. 6. June 1930.

18. C. D. Shapland: An analysis of one hundred cases of retinal detachment treated by cautery puncture, Transactions of the Ophthalmological Society of the United Kingdom. Vol. LI. (Pages 152 to 169). 1931.

19. C. D. Shapland: Retinal detachment and Gonin's operation. A statistical survey. Some observations on bilateral symmetrical detachment of the retina, Transactions of the Ophthalmological Society of the United Kingdom. Vol. LII. (Pages 170 to 202). 1932.

20. Bernard Samuels: Cystic degeneration of the retina, Transactions of the American Ophthalmological Society. Vol. XXVIII. (Pages 169 to 176). 1930.

21. W. S. Duke-Elder: The metabolism of the eye, Archives of Ophthalmology. Vol. No. 2. (Pages 177 to 178). August 1931.

22. Dohrmann K. Pischel: Detachment of the retina; its present operative treatment. American Journal of Ophthalmology. Series 3. Vol. 16. No. 12. (Pages 1091 to 1101). December 1933.



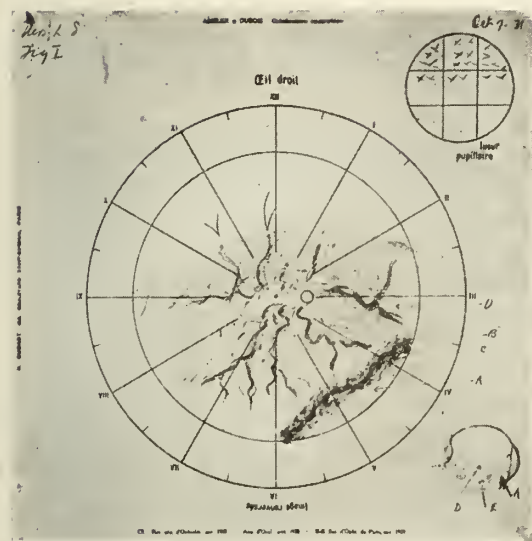


FIGURE I. Represents the first type of retinal tear; namely, disinsertion at the ora serrata. This disinsertion represents the usual location. It occurred in a female, thirty years old, having six diopters of hyperopia.  
A. Disinsertion.  
B. Hemorrhage.  
C. Pigment outlining the tear.  
D. Detached retina.  
E. Subretinal fluid.

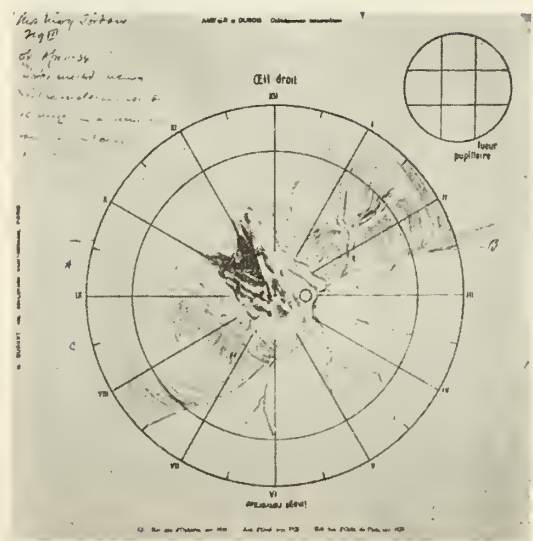


FIGURE III. Represents the third type of retinal tear; namely, arrow-head or horseshoe-shaped rents. Female, fifty-four years old. This detachment in the right eye occurred one week previous to coming to office for examination. Vision in left eye was lost ten years ago due to detachment of retina.  
A. Tear.  
B. Detached retina.  
C. Blood vessels.

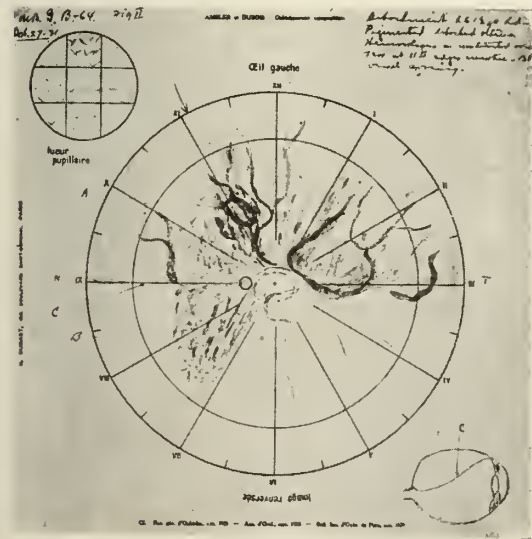


FIGURE II. Represents the second type of retinal tear; namely, round or punched out.  
A. Tear.  
B. Old hemorrhage with pigmentary deposits.  
C. Detached retina.

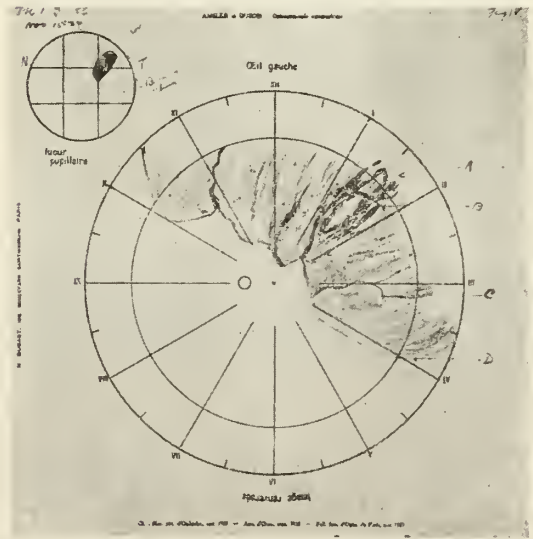


FIGURE IV. Represents the fourth type of retinal tear; namely, the slit-like tear. This occurred in a male, fifty-six years old.  
A. Tear.  
B. Blood vessel crossing tear.  
C. Blood vessels.  
D. Detached retina.

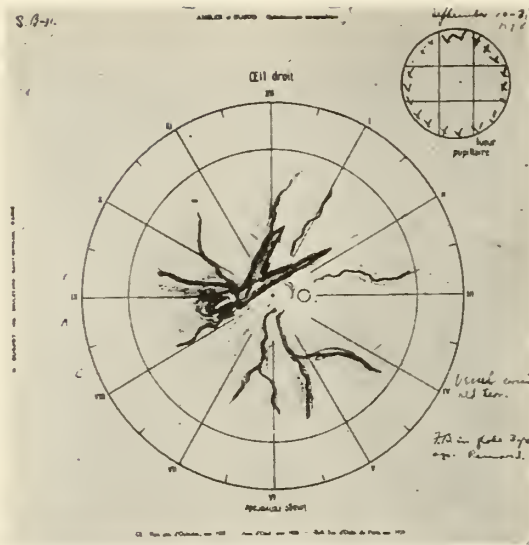


FIGURE V. Represents the fifth type of retinal tear; namely, the irregular type of tear or rent. This occurred in a male, thirty-four years old, following the removal of a foreign body.

- A. Tear.
- B. Blood vessel crossing tear.
- C. Detached retina.

Each class of tears has a characteristic location, according to Shapland<sup>19</sup> in his statistical survey of two hundred cases at Moorfields. For the sake of convenience, the fundus is divided into six regions and named accordingly:

1. Supratemporal.
2. Temporal.
3. Infratemporal.
4. Supranasal.
5. Nasal.
6. Infranasal.

The disinsertions occur most frequently in the inferior temporal region. The more common punched out or rounded holes and the horseshoe-shaped tears occur mostly in the superior temporal zone. It would appear therefore that the temporal region is more vulnerable than the nasal region. The incidence of retinal tears in relation to refractive errors seems to be that the round or punched out hole is more likely to occur in high or low myopia; the horseshoe-shaped tear occurs in both hyperopia and myopia, though more often in myopia; the disinsertions occur in hyperopia and low myopia and especially in young people where the etiologic factor is quite likely to be trauma. The other tears are usually found in older patients. The slit-like and irregular tears

occur about equally in myopia and hyperopia.

#### EARLY LOCAL SYMPTOMS

The local symptoms which precede a detachment are:

1. Floating opacities in the vitreous in increasing numbers, which mean premonitory hemorrhages or exudate, with penetration of the pigmentary elements coming from the ciliary epithelium. These opacities appear to the patient as movable objects in the field of vision, such as a fly, a spider, or other irregular shapes.

2. Luminous sensations, such as flickering of light, flashes of fire, floating stars in brisk movements of the eye; all of which signify traction exerted on the retina by adherence to the vitreous body.

3. Finally, the formation of a veil or curtain, and then a complete blocking of vision as the detachment actually takes place, first in part, and later in all of the visual field.

In detachment of the retina as in cancer, the earlier the condition is recognized and the proper operation done, if an operation is indicated, the more satisfactory are the results. The time element is of very great importance. My own experience shows that the cases of less than one month's duration give much better results than those of more than a month. I had a case referred to me recently which was only three days old, and the retina was entirely replaced by a Gonin operation.

#### OPERATIVE AND NON-OPERATIVE TYPES OF RETINAL DETACHMENT

When it became known to the lay world that detachment of the retina could often be helped, many patients suffering from long standing detachments as well as recent ones came to the eye surgeon with high hopes. Many of these were operated upon with discouraging results. Sufficient time was not always taken to study the retina and its changes accurately, the disease which might be the underlying or indirect cause of the detachment, or the tear in the retina and its accurate localization. Upon such careful study and upon the duration of the detachment I think decision should be based as to which cases are worth operating upon and what type of operation is best.



According to my experience I have made the following classification of the cases which I believe are non-operative and those which should be operated upon.

A. *Non-Operative*: 1. Detachment of long standing with many large tears and

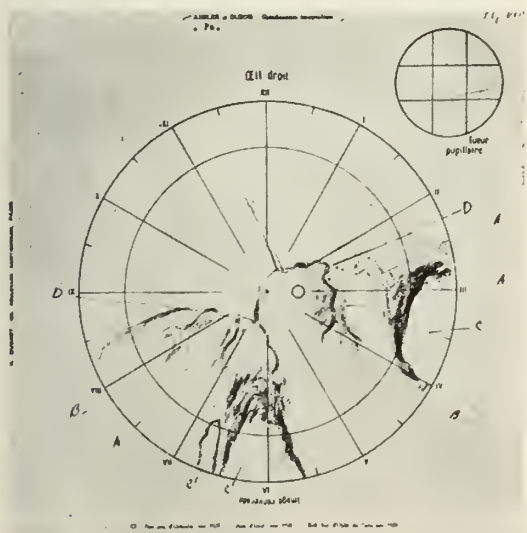


FIGURE VI. Represents a detachment of two and one-half years duration. Floating opacities and luminous sensations for past three years. Myopic—16D. Patient had consulted five eye surgeons and all refused to operate.

- A. Degenerated retina.
- B. Detached retina.
- C. Tears: Disinsertions (2)  
Slit-like (1)
- D. Blood vessels.

low tension: Any eye with multiple large tears suggests at once that there must be more pathology than the tears and the detachment alone. Since this type of detachment is found mostly in elderly persons one might think of cardiovascular-renal sclerosis as a probable underlying cause. But, whatever the cause, operation on this type of case is apt to bring on a subretinal or choroidal hemorrhage.

2. Circulatory disturbance in which there are multiple hemorrhages in the retina: This type of case is also a bad operative risk. In this group are the hypertensions, malignant hypertensions (essential) and arteriosclerosis.

3. Marked cystic degeneration of the retina: This at once implies detachments of long standing with disease of one or more layers of the retina. Even though the retina in this type of case were permanently replaced, the vision would not be improved.

4. Cases of detachment resulting from scar formation; i. e., foreign body having

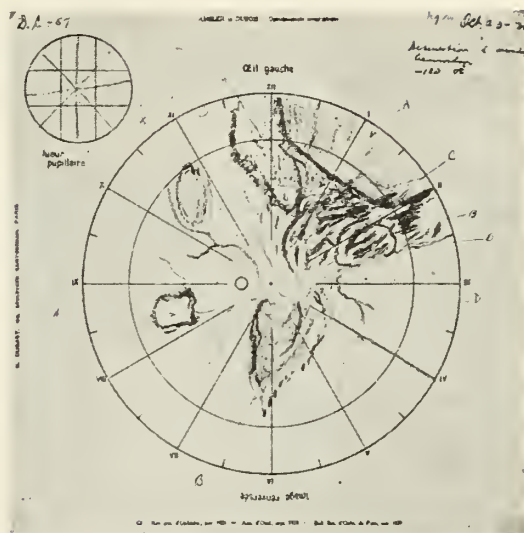


FIGURE VII. Represents a circulatory disturbance. Patient fifty-seven years old. Blood pressure 230. Duration of detachment one year.

- A. Tear or hole.
- B. Hemorrhage.
- C. Pigment degeneration.
- D. Detached retina.

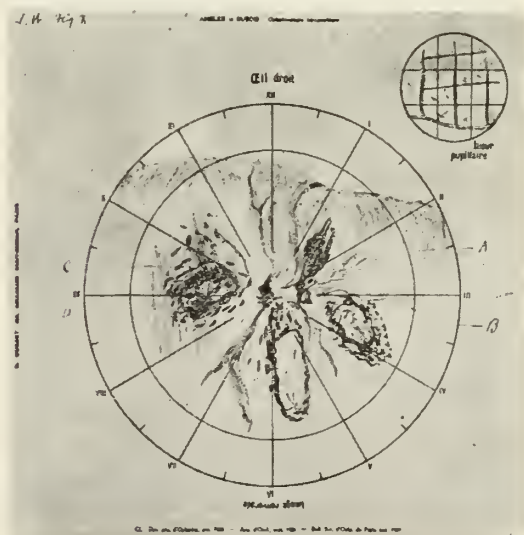


FIGURE VIII. Represents a detachment of five years duration in a patient sixty-eight years old, with almost complete detached retina. No tear found.

- A. Detached retina.
- B. Cystic degeneration.
- C. Choroidal changes.
- D. Pigmented area.

These eyes may show no other pathology except the scar tissue, and on first examination may seem to be quite suitable for operative intervention.

been removed years previous: These detachments are due to contraction of scar tissue in the retina. This type of case offers little hope for permanent reattachment.

5. Detachment following systematic disease such as nephritis, diabetes, arteriosclerosis, etc.: These cases also offer little encouragement for operation. The retina in most of these cases has already undergone

some degeneration, such as scar formation, hemorrhages, cystic degeneration, lipoid degeneration, hyaline and colloidal degeneration or infarctions.

6. Detachment where the tear is near the

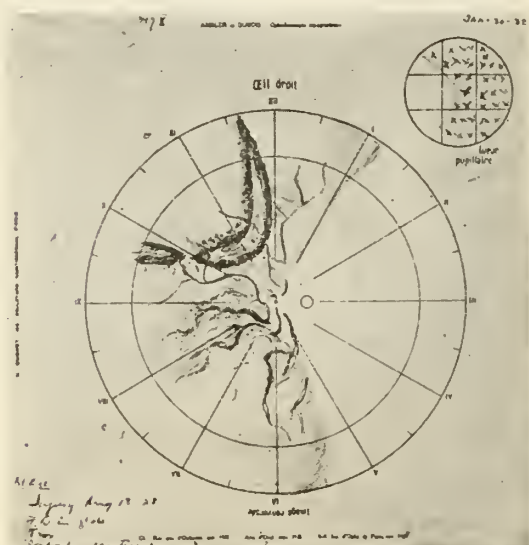


FIGURE IX. Represents a detachment resulting from scar formation. Female, fifteen years old. Brass cap entered globe. Foreign body removed four years ago. Detachment occurred two years after removal of foreign body.

- A. Horseshoe tear at end of scar.
- B. Scar tissue.
- C. Detached retina.

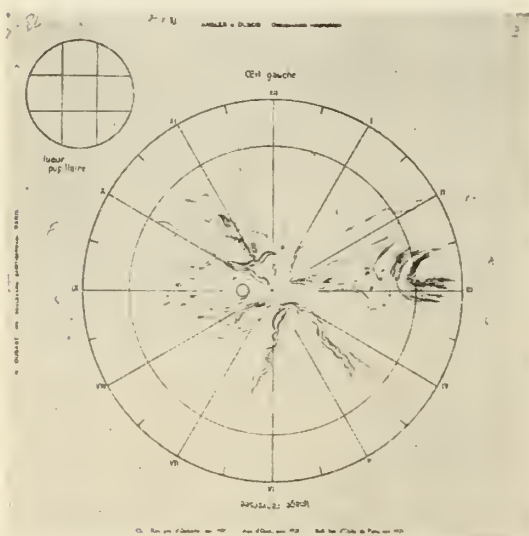


FIGURE X. Patient sixty-three years old with marked arteriosclerosis and nephritis. Detached retina occurred one year ago.

- A. Tear.
- B. Detached retina.
- C. Hemorrhages.
- D. Infarcts.
- E. Beading of vessels.
- F. Arteriovenous constriction.

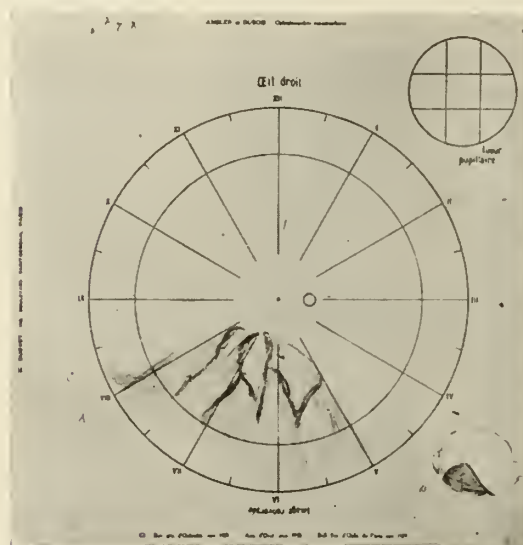


FIGURE XI. Tumor. Mrs. T., fifty-four years old. For past six months patient noticed she could not see all of an object when looking at it with the left eye.

- A. Smooth elevation of retina. No folding of retina. No tear.
- B. Lateral view.
- C. Blood vessels over tumor mass.

posterior pole of the eye: With our present technique and apparatus it is not possible to repair a tear in that location. (See Figure V.)

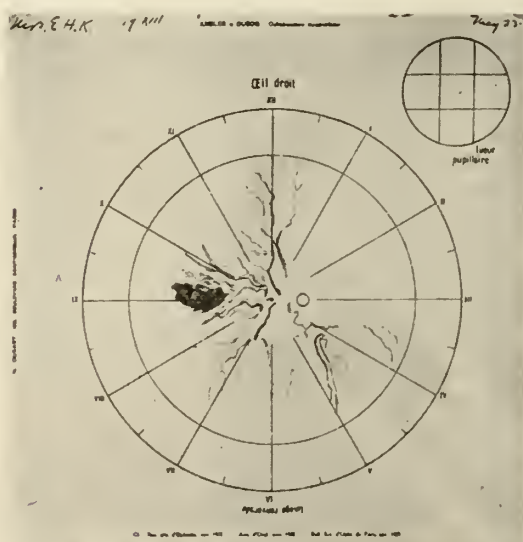


FIGURE XII. Patient forty-seven years old. Five days previous to examination this patient noticed part of her visual field lost. No history of injury. No other ocular pathology.

- A. Tear.
- B. Detached retina.



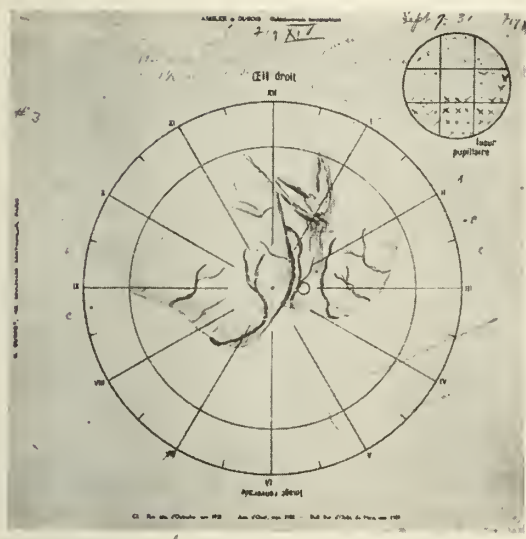


FIGURE XIII. Patient forty years old. History of a fall ten days previous to coming to the office for examination. Myopic—10D. No other ocular pathology.  
A. Horseshoe-shaped tear.  
B. Hemorrhage below lower lip of tear.  
C. Blood vessels over detachment.  
D. Secondary fold in retina.

7. Detachments due to tumors: Detachments produced by new growths certainly do not require the retina to be replaced.

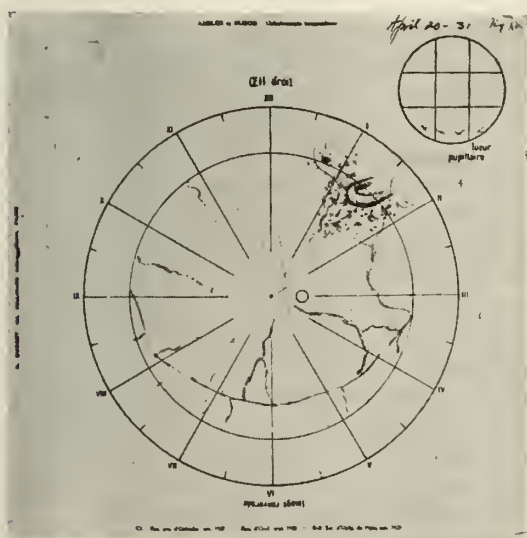


FIGURE XIV. Male. Sixty-three years old. Five days before examination this patient struck his head against a car door. No other ocular pathology.  
A. Horseshoe-shaped tear.  
B. Small petechial hemorrhages below the tear.  
C. Blood vessels over the retina.  
D. Detached retina.

### Operative Types:

1. All recent cases of idiopathic spontaneous detachment. See Figures XII and XIII.

2. Traumatic detachment with no other ocular pathology. See Figures XIV and XV.

It will be seen from the foregoing survey that operations for detachment of the retina have limited field. The following outline of the most typical of the various operations is made for comparison of their technique and their suitability to individual cases.

*The Gonin Operation* requires localization of the tear in the retina with almost mathematical precision. When the tear is accurately located, the operative procedure consists in dissecting the conjunctiva and

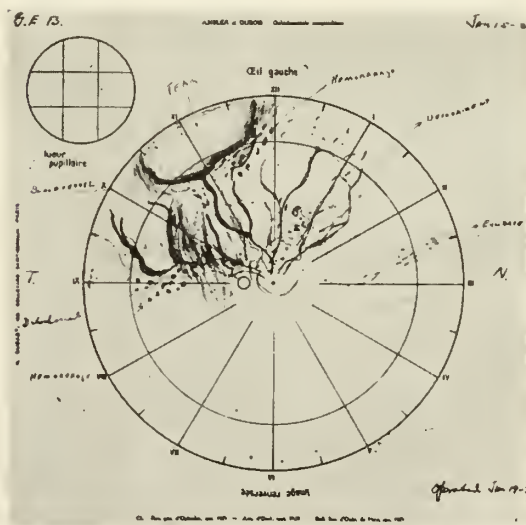


FIGURE XV. Patient struck in the left eye while playing football. Four days later patient was unable to see the floor with the injured eye. A modified Gonin type of operation was performed one week later, resulting in a reattachment of the retina.

Tenon's capsule down to the sclera just above the tear. An incision is then made with a cataract knife through the sclera just at the site of the tear, allowing the subretinal fluid to escape and the retina to return to its place. At once the edges of the torn retina are sealed with a Paquelin red hot cautery through the incision. The conjunctival wound is closed by sutures, a binocular dressing applied, and the patient placed in bed in such position as to make the weight of the vitreous body rest against the cauterized retina.

*The Lindner-Guist Operation* requires some localization of the tear, but not neces-

sarily so accurately as does Gonin's operation. The operation consists in walling off by adhesions that part of the retina in which the tear is located from the rest of the retina. This is accomplished by making some ten to thirty trephine openings just through the sclera surrounding the tear, touching the exposed choroid in each opening with potassium hydroxide, and applying one per cent acetic acid with an applicator to each opening thus cauterized. The whole area is then immediately flooded with normal saline solution. Through all the trephine holes—Lindner perforated only every third one—the choroid is then perforated with a small lacrimal dilator. After the bleeding has stopped, the conjunctiva, Tenon's capsule and muscles, if severed, are sutured, and a binocular dressing applied.

*The Larsson Operation:* In this type of operation no localization of the tear is made except so far as to determine where the detachment of the retina first occurred. Larsson endeavors to treat the whole quadrant of the eye above the detachment. As in the other operations the conjunctiva, Tenon's capsule and muscles are dissected off the sclera, and the whole area is then dried. Insulated retractors are used and the patient is grounded to a large plate. With a small electrode, about 2 mm. in size, using an electric current under 100 milliamperes, the sclera is touched. Contact is made for three to six seconds until the spot is parchment-like in appearance. This is done again and again until the whole area about the tear has been covered by ten to thirty such spots. A single trephine opening is then made in the most dependent portion of the treated area to allow drainage of the subretinal fluid. The wound is closed with sutures and a binocular dressing applied. The patient is then put to bed and the wound allowed to heal.

*The Safar Operation:* Here localization is carefully done and diathermy is used in an attempt to encircle the tear with a wall of exudative choroiditis which will act as a barrier to prevent the spread of the detachment. No incision is made through the sclera or choroid to allow drainage of subretinal fluid as is done in most of the other operations. The technique used in exposing the field is similar to that in the operations previously outlined. Particular care must

be observed in keeping the field dry. When the field is prepared sharp pins about 4 mm. long are thrust through small 2 mm. discs which act as guards, leaving 2 millimeters of the pin extending below the guard. The end of one of the pins above the guard is grasped with forceps, gentle pressure made against the sclera, and an active electrode held in contact with the forceps, the patient being grounded as in the Larsson operation. The diathermy current is then turned on and pressure is exerted until the pin goes through the sclera up to the disc-like guard. This pin is left in place and the same procedure is continued until the area has been circled with the required number of pins. When all the pins have been inserted, they are then withdrawn one by one. Through each opening made by a pin subretinal fluid escapes, allowing the retina to settle slowly back into place without danger of trauma to it. The dissected tissues are replaced, sutured, and dressings applied to the eyes as in the other operations.

#### CHOICE OF OPERATION

Not all cataracts are or should be removed by the same method, since some require an entirely different type of method than others, if the best results are to be obtained. It is the same with operations for detachment of the retina. There are many cases in which the Gonin operation, with its minimum of trauma, is the most suitable; others in which it is not sufficient because it does not cover a large enough area. The Gonin technique is preferable in cases with small tears such as punched out holes, small horseshoe-shaped or slit-like tears. These cases require the most accurate study and afford many of the best results if the Gonin technique of localization and operation is accurately followed. The endothermic surface cauterization or chemical cauterization is best used in cases where there are multiple tears, tears of the larger variety, disinsertions, and detachments where no tear can be found. These types of operation cover a greater area of the globe and with proportionately greater trauma. The technique, while not so accurate, perhaps succeeds in such cases in replacing more retina than the Gonin operation, and it also requires less experience and less precise lo-



calization of the tear. The success of any type of operation depends upon:

- A. Wise selection of cases.
- B. Exhaustive study as to the location and size of the tear or tears.
- C. The duration of the detachment.
- D. Decision as to the most suitable operation.
- E. Rigid following of the proper technique.

#### POSTOPERATIVE CARE

The treatment following the operation is of the greatest importance. The head must be immobilized in the position most favorable for the closing of the wound by the gravity of the vitreous body in whatever type of operation is done, and the immobilization should be maintained for at least five or six days. If the tear is in the superior nasal or temporal area, a pillow may be placed under the shoulder and the head tilted backward and downward. Elevation of the foot of the bed is also useful. If the tear is in the temporal area the patient must lie on his side. If the tear is in the inferior nasal or temporal area, the patient may almost sit up in bed, since this position affords downward pressure of the vitreous against the wound and thereby helps to seal it as well as to hold the retina in place. Food should be liquid or semiliquid, or of such nature as to prevent stools during the first few days. Enemas are preferable to cathartics. After the sixth day the patient is allowed to regain his normal position slowly by a slight change each day, and by the end of the second week he may be out of bed. Both eyes are bandaged for six days, although the outer dressing may be changed the second or third day. After the sixth day the eye not operated on may be left uncovered.

It is the conclusion of the writer from his present experience that only recent cases of idiopathic spontaneous detachments and traumatic detachment without other ocular pathology offer a really favorable prognosis for operation. Also, that continued success depends not only upon wise selection of cases after thorough study and localization of the tear or tears, but also upon the choice of the proper operation; upon the rigid following of its technique, and upon the after care.

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## PROGRESS IN PUBLIC HEALTH\*

By  
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It is the custom of the Medical Association of the State of Alabama at its annual meeting to invite the public to one of its sessions, at which time discussions of medical subjects of general interest are in order. It is presumed that a consideration of one's health is an interesting theme; allied with it are the functions of organized medicine which ought also to have an appeal.

I can suggest no reason why I should have been asked to address you other than that, after having served you in public health activities for the greater part of my professional life, I might be able to tell you something of interest of the subjects to which I have referred. I beg that you will not jump to the conclusion that I am about to indulge in reminiscences, but I cannot refrain from reference to experiences which have, to me at least, been most helpful and of great value because of the lessons they have taught.

My interest in public health began during an emergency, and really before the term public health was much used, at a time of great distress, in which fear and dread of a disease was the dominant emotion in the whole community, rendered all the more fearful and dreadful because of our ignorance and inability to cope with the situation in any but an empirical way. And why by empirical methods? None other was available. The sense of impending danger is always dreadful, but when the danger is a frightful pestilence the fear and distress can only be imagined; it cannot be adequately expressed in words. At the time that I speak of we did the best we could and in the light of our present knowledge this best was almost worthless. This happened in the year 1897.

A few years after the occurrence of the epidemic spoken of, a new era dawned. The science of bacteriology was rapidly developing and through this development the specific causes of many diseases were discovered; for example, the wonderful discovery of the cause of malaria fever. Later, after most painstaking and tedious work, the

\*Presented to the public meeting of the Association in annual session, Mobile, April 17, 1935.

modes of transmission of malaria and of yellow fever were made clear, in which work many American doctors took a leading part. Thus a new science was born almost overnight; namely, Modern Public Health, the objectives of which were the prevention of disease and the conservation of health. To make a long story short, within a relatively short time, procedures for prevention of many diseases and the conservation of health were practiced by rational methods. As time went on and our knowledge extended, procedures were improved and success made more certain.

But there are cases in which more knowledge is still to be acquired, and great caution exercised. If empiricism must be resorted to, the public is always warned of the facts. As an instance of such a case may be cited the control of influenza and the common cold, about which we have yet much to learn and in the prevention of which empiricism is probably practiced. However, there are some of the common diseases which, if we had the means, could be and would be eradicated and eliminated once and for all from the ills of humanity.

Speaking of the eradication of disease, I am reminded of a rather remarkable fact: namely, about 60 years ago before infections were known, the first scientific and rational procedure to stop the spread of an epidemic of disease in Alabama was made in this City. On that occasion a courageous medical officer of Mobile ended an epidemic of a virulent type of smallpox by the very simple method of vaccination. At this time smallpox was the only disease the prevention of which could be accomplished by the medical man. Since then, however, through the application of scientific discoveries, medicine has led the way to wonderful results in the prevention of many diseases.

The story of some of these cases would read like romances, and so dramatic as to stir the imagination to predict wondrous things for the future. To be specific, yellow fever, once a menace to the inhabitants of all seaports in temperate zones of the globe, has by solely scientific effort been backed off to certain known territories in the tropics where it is endemic. Malaria fever, once the scourge of nations and probably the cause of the disappearance of civilizations in the past, has been so controlled

and fettered that its eradication can be foretold with certainty. Typhoid fever, which within recent years collected a terrific toll by destroying so many young lives, is now controlled to such extent that deaths therefrom are exceedingly few. Diphtheria, a disease which once killed 80 per cent of the children affected and was the dread of all mothers, is today, through the achievements of scientific medicine, as easily prevented as smallpox. A single dose of an agent called toxoid confers immunity in from 90 to 95 per cent of cases, and if the procedure is scientifically followed up it will be 100 per cent effective. Hookworm, which 25 years ago was the curse of our Southern country, almost like magic has been practically eradicated.

It is a fact that in the past the death rate from the diseases mentioned was very high. It is also a fact that at the present time the number of deaths resulting from automobile accidents is greater than the total number of deaths from all the diseases I have mentioned. This statement will apply to all of the countries of higher civilization.

One of the great triumphs of scientific medicine in the field of public health which I must cite is the achievement of increasing the span of life. From the time of birth of an individual 40 years ago the expectancy of life was 37 years; today it is about 59 years.

Talk about the good old times if you will. So far as the chance for a long, healthy, happy life is concerned there was never any time or any age so good for the child as the present time. Why wish for the good old days? Judging from the progress being made in medicine and all of the collateral sciences, the indications justify the hope that an even better time lies in the future. It is possible that the expectancy of life at birth may be extended within a reasonable time to 75 years, beyond the proverbial three score years and ten. How have these apparent miracles been wrought? Not by magic, not by guess work, not by haphazard accident, not by the single discovery of any one man but by the continued application of intellect to the many problems of nature; by research and the constant questioning of nature by indefatigable workers and their disciples, and, at their passing, by others who carried on until success crowned some of their ef-



forts. Yet for one successful outcome there were many, many failures. Many, perhaps the majority, of these heroes and benefactors to humanity died, "unwept, unhonoured, and unsung."

Naturally, because of the rather rapid accumulation of knowledge in the field of public health, it became necessary for the medical man to readjust his ideas and to adjust his practices as advances were made. Consequently he was and still is obliged by the nature of his calling to be exceedingly open-minded. This fact and necessity often bring him in conflict with public opinion. Even at the present time it is hard to convince some people of the needlessness of fumigating a room previously occupied by a sick person. Yet they are hardly to be blamed inasmuch as, before the era of modern medicine, the health officer insisted on such a procedure on the grounds that public safety demanded it.

I have just related the incident of an epidemic of smallpox that was controlled 60 years ago by the simple method of vaccination. In the face of that occurrence, I want to tell you that about 15 years ago a supposed essential need in the prevention of smallpox was the maintenance of a "pest house." The public demanded an isolated establishment as far away from a locality as practicable to which smallpox patients could be removed. At that time the County of Mobile paid out annually more money for the maintenance of a pest house than was paid last year for the maintenance of its health department, including the salary of the health officer. Pest houses are no longer used, not because the danger of smallpox has lessened but because the only rational way to suppress smallpox is by vaccination, regardless of age, sex or condition. The youngest person I have known to be vaccinated was less than 12 hours old, the oldest 83 years of age. Both had successful takes and without the least misadventure.

One of the most recent additions to our knowledge which has contributed to progress in the interest of the public health is what is called by McCollum the newer knowledge of nutrition. In fact I believe we should denominate it the Science of Nutrition. People for a long time have known how best to clothe and house themselves. As far back as evidence is available it appears

that improvements in all such creature comforts have been made from time to time. People seemed to know what was best and proved that they were right by increased comfort and greater happiness. Little thought, however, was given the diet. Only within recent years has rational eating claimed attention.

It is interesting to note that one of the most enlightening experiments made in this country in the early pioneering days of the new science of nutrition was made on the farm of a western university school of agriculture on behalf and in the interest of cattle. The same old story: Cholera in hogs, pip in chickens, ticks on cows seem to be of greater interest to the masses than the health of human beings, if the ease with which money may be got for these certain purposes is a criterion. But I want to emphasize that this series of experiments was conducted by a genius, a man who realized the importance of the results of his experimental work, and whose imagination visualized their application to human needs. When all is said and done we have at least gotten somewhere on the road to rational feeding and rational food control, and great credit is due Dr. McCollum.

Where does the Medical Association of the State of Alabama fit into this presentation? All of you may not know that the Association is an arm of the State government. Through legislative enactment it acts as the State Board of Health and numbers among its functions in that capacity the control of all public health work. I am asking you to believe that whatever we do as constituted health authorities is free from selfish purposes, free from ulterior motive and is for your best interest. That we may bring the problems to successful issues we need your confidence and your help.

In the course of our work it may seem to you that actions are arbitrary at times, but I assure you that it is more in the seeming than in the fact. If you will be patient we can give you intelligent reasons for our opinions and procedures and can convince you of our good faith. It does happen at times that the interest of the individual may suffer but all good government looks to the interests of the many. Great opposition is offered sometimes by vested interests. Of course, in such cases we must show reason-

able ground for our actions. Remember this: If at any time it is shown that we are wrong, we will be the first to acknowledge the wrong. But if we are right, then must the vested interest yield to the interest of the many.

New problems are continually arising; old problems can never be neglected. That there has been no recurrence of a certain infectious disease for many years is no reason that it will not occur again. As long as that infection exists anywhere in the world an invasion can happen. Health authorities must be eternally vigilant, therefore, lest in this age of air transportation diseases far removed find their way into virgin territory.

Someone has said that public health is purchasable; that within limits a community may determine its own death rate. These things being true each individual ought so to profit by advances made in scientific medicine that he may, as a unit of society, enjoy the fullest measure of well being. Then will the community as a whole reflect the state of health of each of its citizens.

## THE STATUS OF HYSTERECTOMY IN RURAL SURGICAL PRACTICE\*

By  
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Roanoke, Alabama

It is not my purpose to bring before you a general review of hysterectomy but to give you my impression of the importance of the operation in rural surgical practice. This impression is based on twelve years of personal observation, during which time I have performed the operation on several hundred patients.

In a rural practice there are many practical points which present themselves to the surgeon for consideration and must be entered as surgical judgment if the patient is to obtain the maximum benefit physically and financially from her operation. Our more fortunate city colleagues do not have all of our problems to deal with. In making his decision as to the operative procedure of choice, the rural surgeon must not consider alone the pathology involved but must consider the economic condition of his pa-

tient, size of family, type of work done by the patient, her grade of intelligence and ability to cooperate, and the length of time she can be allowed for convalescence. These, and many other great and small problems, the surgeon must assume with the patient and family if the operation is to give the maximum benefit to the patient.

The economic conditions involved are of major importance. In our small towns we have no charity hospitals nor charity wards. It is, therefore, necessary for the patient or her family to finance the hospital expense. Also, the period of convalescence becomes a vital factor as each member of the family has a place in the daily routine of farm life and must be replaced if the work of making a crop is carried on. As most of you know, the greater per cent of rural people are not land owners but renters or sharefarmers. The money allowed each month for essentials is small and the hazard of crop failure or low prices makes it necessary that expenses be kept at a minimum. Strange as it may seem, necessary expenses do not include doctors, nurses, hospitals and drug bills. These are completely outside the budget. Therefore, the operation of choice must be one that offers the fewest hospital days, the shortest convalescence or morbidity and one that will allow the patient to resume her place in the home or field at the earliest possible moment without danger to herself or a recurrence of her original trouble.

Due to the type of work that is often required of these patients (for it is usually manual), the recurrence of the original trouble is important from a financial viewpoint. Since financing the original expense is often most difficult, a second operation with additional expense is impossible in the majority of cases.

We come then to the subject of this paper: "The Status of Hysterectomy in Rural Surgical Practice."

First, let us refresh our minds as to the classical indications for hysterectomy, namely, cancer, myofibromata, marked infection of the uterus with or without involvement of the appendages; extensive involvement of the uterus, appendages, and adjacent viscera in adhesions; uncontrollable uterine hemorrhage; marked uterine deformity; uncontrollable dysmenorrhea; and

\*Read by title to the Association in annual session, Mobile, April 16, 1935.



marked uterine displacement, especially in prolapse.

The first and last mentioned indications interest me most as a rural surgeon.

Those of you familiar with rural practice know well the great obstetrical problem that must be dealt with. Through no lack of desire on his part or lack of ability, a physician is unable to give these patients the care they should have. Lack of prenatal care, failure to call the doctor in time, and insaniary conditions make proper conduct of obstetric cases impossible. This results in lacerations, infections and misplacements. In the lacerations we find ulcers with the danger of cancer development. The infections produce adhesions (all forms and types) with inevitable sequelae, often ending in complete invalidism. Lastly, the misplacements, especially prolapse with backaches, irritations and nervous reflexes make physical labor almost impossible. It is these conditions that we so often meet in rural surgery to which I wish to call special attention.

When I first returned South and began practice, I most often did a plastic repair of the lacerations, freed adhesions and shortened the round ligaments, usually using the Montgomery modification of the Gilliam procedure; namely, bringing the round ligaments through the folds of the broad ligament to a point on line with the internal abdominal ring between the anterior parietal peritoneum and rectus muscle to within one-half inch of the margin of the abdominal incision. At this point both the rectus muscle and overlying aponeurosis are perforated, traction on the ligaments bringing the uterus into normal position. The ligaments are then anchored to the surface of the aponeurosis.

To me this appeared to be sound surgical judgment and good surgery. I felt well pleased with myself and confidently expected good results. At the end of the second year some of these patients began to return complaining of the original or similar symptoms. Not all returned, but enough to start me thinking and wondering what could be the cause. I checked my operative technique and studied all phases of the question. My conclusion was that my operation was not adapted to the requirements of my pa-

tients. It was well adapted to my well-to-do patients, those who could allow an adequate period for convalescence, who could afford servants and had no long hours of standing or heavy lifting. In these cases excellent and lasting results were obtained. Not so, however, in the poorer class who must return early to resume work in the home or field as a necessary part in the scheme of earning a living.

It was at this time that I decided that a supravaginal hysterectomy was the operation of choice in this class of patients. And in a great many cases of neglected cervical lacerations, in which cancer was a danger, total hysterectomy was performed. In cases where the appendages themselves were infected or diseased, or adhesions too dense, a supravaginal or total hysterectomy was done. Both ovaries (or even a part of one ovary) were preserved when possible. In my experiences this type operation has been most satisfactory to both my patients and myself.

Hysterectomy offers a short hospitalization. The average stay is two weeks. Some patients are able to return home on the tenth postoperative day. The average convalescent period after returning home is six weeks. Some resume work at the end of the fourth week. I insist upon six weeks and eight whenever practical.

The patient is more comfortable after this operation and has fewer subjective symptoms of abdominal tightness, pulling and pelvic pressure. There is also great mental relief. She does not have the fear of a return of trouble in the future. She is relieved of the fear of possible cancer (a very common anxiety). She resumes her duties, relieved of the fear that some quick turn, misstep, or strain will tear down the operative work. All of this is important and leads to a return of health, mental poise and zest for living.

Dr. P. Brooke Bland of Jefferson Medical College, Philadelphia, in his recent edition of *Surgical Gynecology* states that supravaginal hysterectomy, when uncomplicated, is one of the safest major operations performed in the abdominal cavity. The mortality during the past two decades has undergone progressive reduction and today not more than one or two patients out of every hundred skillfully operated upon die.

Kelly and Cullen in 192 cases had but two deaths—a little more than one per cent. One died from intestinal obstruction and one from a generalized complicating abdominal carcinoma. In 901 additional abdominal hysterectomies (all but 50 of which were supravaginal) by Kelly and Cullen, 851 patients recovered and 50 died—a mortality of 5.55 per cent. Death resulted from:

Peritonitis .....	22 cases
Intestinal obstruction .....	5 cases
Shock .....	7 cases
Other causes .....	12 cases

Today the mortality is lower than this. In some clinics it is less than 2 per cent.

As stated earlier in this paper, I do the supravaginal hysterectomy unless there is a badly lacerated cervix or unless the cervix is the seat of suspicious alteration. However, in rural surgery I find it necessary to perform a great many total hysterectomies. Certainly nothing short of a total operation is ever considered if evidence of malignant alteration is present.

The complete operation as a routine procedure is strongly advocated by a great many men. They believe that thus the subsequent development of carcinoma in the cervical stump is entirely prevented. I believe, however, that a larger number of fatalities will result primarily from the extended abdominal hysterectomy than from secondary development of cancer in the cervical stump. Giles investigated the fate of the cervical stump following the supravaginal operation in 186 patients. In 181 not one showed any sign of malignancy and in 98.3 per cent there was no disturbance whatsoever.

Complications which sometimes follow hysterectomies are not frequent enough to terrorize the surgeon. The most common, as well as the most lamentable, is peritonitis. The trouble is naturally more prone to develop in cases of preexisting infection of the appendages. Injury of the bladder, ureter, or bowel with leakage, in the course of the operation, naturally favors trouble. Nearly 50 per cent of the deaths in the 901 cases of Kelly and Cullen resulted from this cause. Despite our present mode of asepsis, generalized peritonitis stands out as the great bugbear of the abdominal surgeon.

Localized peritonitis, with or without ac-

cumulation in the pelvic cavity, is more common and fortunately much less serious than widespread infection. This is due to the same causes already mentioned above. Frequently a pelvic collection of blood undergoes infection from its proximity to the rectum, and this probably is the most common cause of localized pelvic suppuration following hysterectomy.

Intestinal obstruction is a catastrophe which happily is not common, although few men active in pelvic surgery have escaped this unfortunate experience. At this writing I can very vividly recall two cases of my own. These patients were immediately reopened, and both recovered. Kelly and Cullen's series, already mentioned, showed five deaths from intestinal obstruction. Perhaps a few others who were opened recovered. This complication probably occurs somewhere in the neighborhood of one per cent of hysterectomies. The site of the obstruction is generally about the stumps of the broad ligaments or the cervical stump. Occasionally the bowel becomes adherent to the floor of the pelvis or to a raw surface of an opposing section of the intestines. Obstructions sometimes result from the omentum becoming adherent to the pelvis or the cervical stump and dropping down, compressing a section of bowel. Ileus or torsion of the intestine may also be responsible for the condition.

Thrombophlebitis of the saphenous and femoral veins occurs more commonly after hysterectomy than after any other abdominal operation. It most frequently involves the left side. Occasionally, both limbs are affected, the left vein becoming infected first and the right a week or ten days later. Simultaneous infection is rare. Kelly and Cullen report 26 cases of phlebitis in their series. The left leg was affected 17 times; the right 6 and both 3 times. The trouble usually appears from the tenth to the fourteenth day after operation, or a few days before the patient is ready to leave her bed. It is announced by pain and tenderness in the calf of the leg and along the course of the femoral vessel. A slight elevation of temperature and acceleration of pulse accompany this disorder. Swelling of the extremity may be very slight or very marked. In most cases it is moderate. The skin of the limb affected is glistening and edematous.



There is not much diversity of opinion as to the cause of thrombophlebitis. It presents as outlined all the characteristic features of infection, and today this is regarded as the causative factor.

Pulmonary embolism occurs in approximately one-half of 1 per cent of cases and this constitutes one of the most unfortunate calamities of hysterectomy. "Indeed this tragedy is more likely to follow hysterectomy than any other operation performed within the abdominal cavity," states Bland. It may follow thrombophlebitis or occur independently of this. In most cases the lung is involved but in some cases other structures, especially the brain, are affected. When the lung is involved, the lesion may be in the form of a solitary embolus or an embolic shower. The patient experiences severe pain in the chest not unlike pleurisy or beginning pulmonitis. This, with other signs, often leads to the mistaken diagnosis of so-called postoperative pleurisy or pneumonia. Generally a large embolic mass involves the lung, rapidly and completely blocking the pulmonary artery, causing violent pain, marked dyspnea, cyanosis and sudden death. Pulmonary embolus is one of the most tragic complications the surgeon is called upon to observe. It usually appears when high hopes are entertained for the patient's recovery and generally about the time she is permitted to get out of bed or leave the hospital. It may come on early, but it is rare before the tenth day.

Hemorrhage, while infrequent, must be considered as a complication. Doubly ligating the ovarian and uterine vessels and further making sure of complete hemostasis should eliminate this.

Pneumonia is not more frequent after hysterectomy than after any other major intra-abdominal operation. *P r e c a u t i o n s* should be observed to protect the patient as much as possible during the operation in order to avoid this complication. Prophylactically, proper anesthesia is most important. For the last three years I have used spinal anesthesia almost exclusively and to date have had no pulmonary complications. I give spinal anesthesia due credit.

The causes of death following hysterectomy I shall merely mention again, in point of frequency, as follows:

- (1) Peritonitis
- (2) Intestinal obstruction
- (3) Shock
- (4) Pulmonary embolus

Less frequent causes include pneumonia, latent hyperthyroidism, secondary hemorrhage, nephritis, acute dilatation of the stomach, chronic myocarditis, extensive parotitis with secondary involvement of the cellular tissues of the neck.

The many procedures for correcting uterine displacements and infections of the uterus and its appendages offer practically all the complications that attend hysterectomy. In hysterectomy the danger of thrombophlebitis is greater. In the round ligament operations (other than Montgomery's modification of the Gilliam operation) the danger of intestinal obstruction is greater. Otherwise, the complications and causes of death are practically similar.

I have tried to present to you in this paper a personal problem that arose in my practice. I have tried to acquaint you with this and my patients' problems and to lead you along my paths of reasoning to my final conclusion. In a rural surgical practice hysterectomy becomes most frequently a wise and necessary surgical procedure.

#### APPENDICITIS IN PREGNANCY\*

By

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The dangers and grave complications of pregnancy are well known. No one doubts the etiologic relationship between appendicitis and lesions of the genital organs in women. Appendicitis is a possible complication of pregnancy, which is particularly likely to recur if there has been a history of previous attacks. Acute appendicitis in the latter weeks of pregnancy is a comparatively rare occurrence, but it is increasingly serious as pregnancy advances. However, De Lee reports that he has observed only 4 such cases in the last 30 years of practice; and in Baudelocque's Clinic one case was found in each 11,497 admissions. Most all statistics prove that in the latter weeks of pregnancy one case of acute appendicitis develops in every 10,000 pregnancies.

\*Read at a meeting of the Southeastern Division of the Association.

The late John B. Murphy never held his tongue when any variety of appendiceal disease was being discussed. He had much to say regarding what he termed the "antemortem" surgeon and the "expectans mortem" school of surgery. He was always positive and on the solid rock of immediate operation in acute appendicitis; he took his stand and never in all the course of his active and long surgical life and career did he waver in any degree from that timely position. He was equally as positive about appendicitis in pregnancy or as a complication during any other disease. Many surgeons, even as far back as 1910, made the unqualified statement that there is never any excuse for delaying surgery during pregnancy. They based their opinion on the one thing that experience had taught; namely, that "one does not know what is going to happen in the ten or twenty or forty hours following the onset of appendicitis."

As one doing surgery, I follow in their train. I have witnessed too many tragedies, and I have personally participated in too many, not to have a very vivid and wholesome fear for what an hour or so, let alone 10 or 20 hours, may bring to pass when we are dealing with this most treacherous of all diseases. I, for one, can not see that its association with pregnancy alters the situation in any degree. Appendicitis is still and always will be appendicitis, and the first indication, as the late Dr. Keen said many years ago, is to call a surgeon. It is impossible in any case for a medical man, however gifted he may be, to foretell whether the acute process will subside or whether it will progress to the stage where no treatment is of avail. Of course I see with a surgical eye that the obstetrician, though not unreasonably, focuses his gaze on the obstetric problem; the medical man on palliative treatment and the probability of a subsidence of the acute condition. I say again, nevertheless, that appendicitis is still appendicitis. I contend that the pregnant woman runs sufficient risk of life in the performance of her supposedly physiologic function, without being subjected to an additional risk of a purely surgical disease that is wholly amenable to cure when treated as a surgical emergency. I realize that the ideal of the medical man and the obstetrician is to save two lives; that they fear surgery will jeopardize the life of the un-

born child. That reasoning, as I shall point out later, is fallacious. Moynihan's rule is the more logical one: "that it is unreasonable to permit one to die of one disease because he happens to have another." Certainly the pregnant woman has as much right to live as her non-pregnant sister.

Until quite recently appendicitis in pregnancy was considered a surgical curiosity. In the last decade, however, innumerable studies have been published, chiefly in foreign literature. Many of the most recent ones embrace hundreds of cases. There is no longer any excuse for reporting a single case unless it is truly unique. In an analysis of 21 cases of mine, operated upon for acute appendicitis in pregnancy, the series show that gestation confers no immunity. The highest incidence is between ages 20 to 30, although the youngest was 15 and the oldest 46. In a report from Michael Reese Hospital the incidence was about the same. Of importance, however, is that the disease does and can occur as a complication of pregnancy rather than how often it develops.

It is certainly a fact that the woman who has once had appendicitis of the so-called chronic or recurrent type is very likely to develop it again during pregnancy, often with much graver results. In the cases cited above, over one-half (12) gave a history of previous attacks, and that percentage holds for nearly all cases reported. We know that recurrent cases are unfavorably influenced by menstruation; also, that since pregnancy introduces altered abdominal relations and altered constitutional states, such as constipation and engorgement of the pelvic and hemorrhoidal veins, toxic conditions play an important part. Radiologic studies by Reis, Baer and Arens upon 78 cases found that the appendix undergoes progressive displacement upward after the third month, reaching the level of the iliac crest at the end of the sixth month. They found also that it undergoes a counter-clockwise rotation. It is obvious, then, that it can not have anatomic and physiologic rest. The situation is aggravated, particularly, if previous attacks have left adhesions to some pelvic organ thus increasing the gravity of the case.

#### PATHOLOGY

The pathology of the appendix in pregnancy is the same as its pathology in the non-pregnant state, but its anatomic posi-



tion may vary with the different periods of pregnancy. Hence, it may be found as high as under the liver, or as low as in the pelvis. In addition, it may be adherent to the posterior surface of the uterus, to the fundus or to the adnexa. The pathology is not inherently more serious than the pathology of appendicitis at other times but it seems more serious, and it may prove so to be if there is delay. Baer, Reis and Arens, in a comparative series, found the gangrenous and ruptured type  $5\frac{1}{2}$  and  $3\frac{1}{2}$  times as frequent in the pregnant as in the non-pregnant state. Jerlov and McDonald reached the same conclusion. Pregnancy aggravates chronic appendicular infection, especially when the appendix is abnormal in length, mobility, shape or position. Gangrene and perforations occur more rapidly during pregnancy; according to my cases and to all literature, if the cases are not properly treated, rapid spread of infection is the rule; and if pregnancy is far advanced rupture is likely to be followed by diffuse, spreading peritonitis, with very little tendency to localization and abscess formation. There is a weaker reaction, increased vascularity, greater danger of thrombosis and embolism, less adequate drainage and earlier intestinal obstruction. The higher mortality after the seventh month may be called the "mortality of delay" and the months of widespread, generalized peritonitis.

The incidence of abortion and premature labor increases in exact ratio to the seriousness of the disease. The patient operated upon in the acute stage is likely to continue her pregnancy undisturbed, indeed more likely than the patient in whom operation is deferred. At the same time the fever, nausea, vomiting, toxemia, reflex peritoneal irritation, and the direct extension of the infection are the main factors responsible for the interruption of the pregnancy, rather than the operative act itself, which is the minimum part of the picture. While the maternal mortality is highest among the patients who abort, abortion is not the event responsible for the fatality. Many of these women are overwhelmed by their sepsis and are actually moribund when the fetus is expelled; in other words they abort because they are dying; they do not die because they abort. Of course the fetal mortality is inevitably high.

#### DIAGNOSIS

The diagnosis in the early months of pregnancy is no more difficult than in the non-pregnant. The history of previous attacks is perhaps the most important single point in making of diagnosis; and where this is absent, an analysis of the clinical signs and symptoms with more than ordinary care is my best advice. The history of pain in the right side and lower quadrant, nausea and vomiting and fever, together with the physical manifestations of tenderness over McBurney's point, right rectus spasm and rigidity, and a leucocytosis of above 9,000 should establish sufficient evidence to open the abdomen at once. The safest rule according to Maes "is to eliminate non-surgical complications and then to operate, even without a definite diagnosis."

As is always the case in appendicitis in the female, right-sided pyelitis must be carefully differentiated, and remember it is relatively rather frequent in pregnancy. Laboratory tests, cystoscopy, and repeated urinary tests usually settle the diagnosis. One must bear in mind that the mere presence of a pyelitis does not necessarily eliminate appendicitis, though the coincidence would be unusual. One should remember also that an operation on the mistaken diagnosis of appendicitis is far better than abstinence from operation on the mistaken diagnosis of pyelitis. Other conditions complicating pregnancy that must be differentiated are urethritis, cystitis, kidney and ureteral stones, cholecystitis, cholelithiasis, ectopic gestation, myomatous degeneration, and a twisted pedicle of an ovarian cyst.

#### TREATMENT

Operation is induced as soon as the diagnosis is made, or reasonably suggested, and the procedure should be conducted throughout on the basis of sound surgical principles. Agreeing then that treatment is surgical, the need for prompt surgical intervention in the presence of pregnancy is even greater than in the non-pregnant. Delay results in serious complications, with increasing morbidity and mortality and with ever increasing danger to the fetus. The nearer term approaches the more difficult is the operation and the more urgent the obstetric factor.

The appendix should be removed whenever it can be safely and expeditiously ex-

cised; if frank pus is present and the appendix not readily accessible, drainage alone should be done. Manipulation should be reduced to a minimum and the gravid uterus not even touched if possible. In no case should attempts be made to bring it out of the abdomen or wound. When possible, omit drainage but always if frank pus is present, remembering too that the peritoneum is less trusted in pregnancy than at any other time. The drainage tubes should be placed with special care, for the changing conditions within the abdomen during pregnancy, particularly if abortion or labor supervenes, are likely to disturb their position. The solution of the problem will rest on the surgical judgment of the operator and to the individual case; fixed rules have no place here. While complete drainage of the pelvis is essential, vaginal drainage is not to be considered, says Kelly.

Both the right rectus and the McBurney incision have their advantages. The former gives a better exposure and results in less trauma to the growing uterus, and is best in latter months of pregnancy. The McBurney incision is not adequate if the diagnosis is incorrect and exploration must be resorted to. It is thoroughly unsatisfactory if the appendix is abnormally located. The length of the incision should always be liberal, regardless of use of right rectus, oblique incision, or McBurney. Afford yourself good visual exposure and do away, as much as possible, with finger or hand exploration. Remember the long incision heals just as quickly as the short, makes exploration easier, allows correct placement of drainage tubes and removes the possibility of unduly prolonged manipulations and operation. Furthermore, the uterus is disturbed less when the incision is long.

Visual exploration, whenever possible, should be the rule at first. After protecting the fundus with a wet warm strip, the uterus is gently lifted and the location of the organ sought by visual exploration. If this fails, one should identify the ascending colon and follow it down to the appendix. As a last resort only, the left hand is introduced into the abdominal cavity and directed to the appendiceal region to the left and behind the uterus. Once located, the extent of the pathology is carefully noted. Then let your surgical judgment, your technical

acumen and experience be your guides in coping with the condition.

Remember that gentleness, and avoidance of traction on the appendix, cecum or intestines—using 15 minutes more if necessary, in completing the work—give better results, with less morbidity and mortality. Whether you bury the appendiceal stump depends on the surgeon's opinion of the subject and the individual case. It is advisable and very important to control bleeding; otherwise a fertile culture medium will be left; or, if the bleeding should become extensive, a serious secondary operation may be necessary. The continuation of gestation will naturally put a heavy tax on the operative scar, and the strain will be greater if labor follows operation promptly, but a meticulously careful closure, with an extra number of sutures, will eliminate at least part of this difficulty. It need scarcely be pointed out that a ventral hernia in a live patient is to be preferred to a well healed beautiful wound in a dead one.

The management of appendicitis during the last months of pregnancy presents another problem; namely, the obstetrical management. I believe that the simplest and safest solution of the problem is for the surgeon to take care of the appendiceal disease and for the patient, in the absence of obstetrical indications, to be left to manage for herself obstetrically. With the aid of Nature, she will probably do a better job than the surgeon or obstetrician could do for her. Labor is likely to supervene shortly after operation, but if the abdominal closure has been performed carefully, and if parturition is shortened by the various known methods of obstetric art, then the end result is likely to be far more satisfactory than any procedure which involves the termination of pregnancy at the time of the abdominal operation. If the maternal disease is grave, the child's chance of survival is too small to warrant increasing, for its sake alone, the risk to the mother. In the series referred to, I had two cases of appendicitis during the last months of pregnancy. Here I followed conservative treatment and both cases did well. Many authors have recommended delivery by cesarean section, Porro section, or low cervical cesarean when an appendectomy becomes necessary in the last month of pregnancy.



In severe cases, Jerlov, who has had the widest experience and collected the largest series, says "There is no indication to perform a hysterectomy in cases complicated by peritonitis; the uterus should not be emptied routinely after appendectomy, or the operation serving best in the particular case. The best results are obtained by waiting for spontaneous delivery; there is no indication to open the uterus before performing an appendectomy during pregnancy." These are, undoubtedly, very sound conclusions. I believe we should leave the uterus alone and the pregnancy undisturbed. Particularly is this applicable in the presence of peritonitis.

Postoperative care does not differ from that following appendectomies in the non-pregnant state, except for the liberal use of morphine for the first few days to prevent abortion or labor if it is at all possible to prevent it. Purgatives, laxatives, and even enemas should be withheld, distention being controlled by the rectal tube. It seems scarcely necessary to add the warning that the use of pituitrin is the surest possible way of precipitating the results one is hoping to avoid. Phaneuff mentions "the value of enterostomy in serious cases, which permits control of distention, drainage of the bowels, and direct introduction of glucose, with a high measure of safety and with the least possible inconvenience to the patient." I advocate the free use of salt solution infusion, or subcutaneously, to keep up body fluids. Proctoclysis should be avoided.

#### SUMMARY

1. Appendicitis is a possible complication of pregnancy, which is particularly likely to occur if there has been a history of previous attacks, and which is increasingly serious as pregnancy advances, particularly in the last month of gestation.

2. The pathology is no more serious than in the non-pregnant state. Of course, delay aggravates the condition and the anatomic and physiologic changes may make a fatal manifestation if surgery is delayed.

3. Abortion increases the mother's risk, but it occurs due to the disease and not because of surgical interference.

4. Fetal mortality is high; maternal mortality is in direct proportion to the severity of the disease and the stage of gestation. If there is early diagnosis in mild attacks with immediate surgical interference, the

mortality is not higher than in the non-pregnant state. Every actively diseased appendix should be removed without regard to the stage of pregnancy; the diagnosis having been made, there is no excuse for waiting.

5. Diagnosis is complicated by various factors which pregnancy introduces. Pyelitis offers the chief difficulty in differential diagnosis.

6. Operate at once when diagnosis is fairly conclusive or there is reason to suspect that appendicitis exists.

7. Delivery if done at all should be done according to well established obstetric principles.

8. Proper postoperative care is necessary to prevent abortion or premature labor. The liberal use of morphine and the omission of purgatives, enemas and all oxytocic remedies constitute sound practice.

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**Childhood Tuberculosis**—The term "childhood tuberculosis" is commonly applied by phthisiologists to an infection of the tracheobronchial and hilus lymph nodes with the tubercle bacillus of Koch. The glands are usually fairly uniformly enlarged and some often show deposits of calcium. This infection in the glands is usually secondary to a primary lesion in the lung parenchyma, wall of a bronchus, or other nearby tissue. Because of the fact that the infection is usually confined to the glands, there is an absence of dependable physical signs which might be of assistance in the diagnosis.

Fortunately in the roentgen ray we have a most valuable aid, and if the film is properly made from a mechanical standpoint and the diagnostician is well trained in its interpretation, a fairly accurate diagnosis can usually be made. Sometimes the customary anteroposterior film will fail to reveal the glands which are involved, for the reason that these lie in the mediastinum back of the large blood vessels or the bronchi, and in that even lateral and oblique pictures are very helpful. In fact this incidence occurs sufficiently often to make it advisable that anteroposterior, oblique, and lateral views be made in every case where the diagnosis is doubtful.

Myers of Minneapolis, who has made an exhaustive study of childhood tuberculosis, suggests that where a tuberculin test is definitely positive in children and chest x-ray studies are negative, films be made of the cervical and mesenteric lymph nodes, as these will often reveal the reason for the positive tuberculin reaction.—*Homan, et al. Texas State J. Med., Oct. '35.*

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### XANTHINE AND MERCURIAL DIURETICS

When Crawford and McDaniel<sup>1</sup> reported their observations on mercurial diuretics, both singly and in combination with theophylline, they reminded us that mercury was first used as a diuretic in the form of calomel by mouth and that this method gradually fell into disuse. Then, in 1920, novasurol was announced, only to be largely superseded by salyrgan because of the lower toxicity of the latter drug. And now, the authors inform us "the latest mercurial diuretic introduced is one in which a complex mercurial salt is combined with theophylline. The mercury content of this drug is essentially similar to that in novasurol and salyrgan. Excellent clinical results and a low incidence of toxicity have been reported." This drug is sold under the name of mercupurin.

Crawford and McDaniel treated fifteen patients "all in advanced periods of invalidism. Ten suffered from heart disease and five from cirrhosis of the liver. They received a total of 118 injections of mercupurin and 20 of salyrgan." In most instances xanthine diuretics had been given unsuccessfully before commencing the mercurial group. The mercurials in no way interfered with the administration of digitalis whenever needed. "The mercurial diuretics were used in doses of one to two cc. intravenously in every instance. As a rule a preliminary injection of one cc. was given to deter-

mine the possibility of an idiosyncrasy. Thereafter, as a rule the dose was two cc. Usually the injections were repeated at intervals of four days . . . ."

"In every instance the administration of the diuretics was followed by an increase in the output of urine, often to a marked degree. The diuresis commenced as a rule within three hours and attained a maximum in about eight to twelve hours." Frequent repetitions of the drug often tended to lessen the urine volume after later injections. "In every instance, except one, in which mercupurin and salyrgan were compared, the response to the former was greater than to the latter." The clinical improvement of the patients was remarkable. Edema and ascites were lessened and, in some cases, they disappeared entirely. Paracentesis was rarely resorted to after treatment, though previously it was done often. "In no case was there any reaction following the injection of either drug," possibly because the investigators were careful to exclude all cases which showed marked renal involvement. Careful studies of the urine and of the blood urea failed to show any evidence of renal damage following the injections.

Only the older practitioners can now recall the days when calomel was given by mouth as a diuretic, but all clinicians are familiar with the newer mercurial diuretics which are administered either intravenously or intramuscularly and which have gradually become more efficient and less toxic. But every physician who has seen these severe and sometimes dangerous reactions will wonder how Crawford and McDaniel managed to give 138 injections of the powerful mercurial diuretics without a single evidence of toxicity. But everyone will agree that their contribution is both timely and interesting and it is to be hoped that their excellent results will be repeated and confirmed by others, and all practitioners will say with them that "the problem of diuresis is one which has been subjected to much investigation but the importance of the removal of edema fluid is such that every effort should be made to improve the methods of dealing with a sign of such grave import. That the mercurial diuretics have proved a marked advance in this respect is unquestioned."

1. Crawford, J. Hamilton, and McDaniel, W. S.: Some Observations on Mercurial Diuretics, *Ann. of Int. Medicine*, 8: 1266 (April) 1935.



## THE ASSOCIATION FORUM

*(Under this heading will appear, from time to time, as occasion may arise, contributions having a direct bearing on the general policies, functions and interests of the Association. Articles submitted should be of an impersonal nature.)*

### PROFESSIONAL LICENSURE IN ITS RELATION TO THE OCCUPATIONAL FEE OR LICENSE

J. N. Baker, M.D.,  
State Health Officer

The new Revenue Bill of 1935 imposes certain fees upon those practising certain professions.

In the *Birmingham News* of August 5th, 1935, there appeared the following communication:

#### REGULATING THE CHIROPRACTIC PROFESSION

To the Editor, The News:

I wish to call to your attention the fact that the chiropractic profession is now legalized to practice in the state of Alabama. Under my direction, Senator M. B. Wellborn inserted in the revenue bill a clause taxing the chiropractors and osteopaths \$20 a year to do business. This automatically legalized the practise within the state, and our next move will be to ask the Legislature to grant us rights to regulate the practice in the state.

Our bill went through the Legislature unnoticed by the medical profession and has been signed by the Governor.

Senator Copeland, of New York, has a bill in Congress to regulate all healing professions and adjuncts used for treating the sick, and it has passed the Senate. This bill prohibits the use or practice of anything not legalized by the state, so now our bill will take care of us even if his bill should be passed. His bill also includes the pure food regulations. Now I feel that the medical profession will not be so bitter against us when we ask that our practice be regulated by law and the standards set to assure the people of Alabama that they will have the best of the profession in this state. Now, as it is, Alabama gets many of the fellows who are unable to pass the state board examinations in other states. I hold a license to practice in the state of Oklahoma. This license is considered to be one of the best in the United States and is recognized by the federal government on the same level with the medical profession, and we hope to get a similar one through the Legislature in Alabama in the near future.

Dwight L. Evans, D.C.

Secretary-Treasurer, Northeast Alabama Chiropractic Association, Anniston, Ala.

Upon the State Health Officer's attention being directed to this communication, an official opinion was requested from the Attorney General of the State bearing on this

matter. The State Health Officer's request and the Attorney General's opinion appear below. A perusal of the latter reveals that a procurance of a certificate of qualification is a prerequisite to the issuance of an occupational license.

Dr. J. N. Baker,  
State Health Officer,  
Capitol.

Licenses—Schedules 101 and 124 of the Revenue Code of 1935, licensing osteopaths, chiropractors, scientists, naturapaths and chiropodists do not invalidate the requirements of Section 2837 of the Code of 1923, requiring a certificate of qualification for one who engages in the practice of medicine.

Opinion by Assistant Attorney General Screws.

Dear Sir:

I have your letter of August 9, 1935, which is as follows:

I shall appreciate an opinion from you as to the proper legal construction to be placed on the following sections of the 1935 Revenue Bill:

Article XIII, Chapter 1, License Schedule, Section 348, p. 235, reads as follows:

"Every person, firm, company, corporation or association, receiver or trustee, but not a governmental subdivision, engaged in any business, vocation, occupation, calling or profession herein enumerated, or who shall exercise any privilege hereinafter described for which a license or privilege tax is required, shall first procure a State license, a County license when so required, and shall pay for the same, or shall pay for the exercise of such privilege the amounts hereinafter provided and comply with all other provisions of this Act."

Schedule 101 of this same Section 348, p. 284, reads as follows:

"Each osteopath or chiropractor practicing his profession shall pay an annual license of twenty dollars (\$20.00) to the State, but no license shall be paid to the county. If such business is conducted as a firm, or corporation in which more than one person is engaged, each osteopath, or chiropractor so engaged shall pay a license of twenty dollars (\$20.00), provided further, that no osteopath or chiropractor shall be required to pay a license until after he has practiced his profession for two years."

Schedule 124 of this same Section 348, p. 292, reads as follows:

"Each scientist, naturapath, or chiropodist practicing his profession shall pay an annual li-

cense of ten dollars (\$10.00) to the State, but no license shall be paid to the county. If such business is conducted as a firm, or corporation in which more than one person is engaged, each scientist, naturapath or chiropodist so engaged shall pay a license of Ten Dollars (\$10.00), provided further, that no scientist, naturapath or chiropodist shall be required to pay a license until after he has practiced his profession for two years."

It will be observed that each group of these schedules deals with a particular group practicing the healing art. Section 2837 of the 1923 Code of Alabama reads in part as follows:

"An applicant for a certificate of qualification to treat diseases of human beings by any system of treatment whatsoever shall, according to rules prescribed by the Medical Association of the State of Alabama, be examined in writing, by the State Board of Medical Examiners, in the following named branches of medical learning..."

Specifically, I wish to be advised as to whether the schedules above referred to, in any way, invalidate the requirements exacted of any one attempting to deal with human ailments as set forth in Section 2837 of the Code.

I am of the opinion that your inquiry should be answered in the negative.

The above license schedules presuppose the issuance of licenses only to those who are legally entitled to engage in the practice of the professions in question.—*Biennial Report of Attorney General* 1930-1932, p. 328.

If one desires to engage in any profession, by whatsoever name called, within the contemplation of Section 2837 of the Code of 1923 (viz. practicing medicine), he must first obtain a certificate of qualification required thereunder. The licensing authorities are unauthorized to issue a license to anyone unless thus qualified.—*Jackson v. City of Sylacauga*, 25 Ala. App. 224, 144 So. 125. Moreover, to practice without first obtaining said certificate of qualification is a criminal offense.—*Section 5191, Code of Alabama of 1923*.

Construing Sections 2837 and 5191, of the Code of 1923, supra, the courts of this State have held that said sections are broad and comprehensive. They not only include chiropractors and osteopaths but all persons who would treat or offer to treat the diseases of human beings by any system whatsoever.—*State ex rel. Biggs v. Higbee*, 224 Ala. 121, 138 So. 819; *Robinson v. State*, 212 Ala. 459, 102 So. 693; *Bragg v. State*, 134 Ala. 165, 32 So. 767; *Wide-man v. State*, 20 Ala. App. 422; 104 So. 438.

The mere fact of the enactment of license schedules for chiropractors, osteopaths, or the like, does not invalidate the provisions of Section 2837, Code of 1923, supra. As above stated, said schedules presuppose the legal right to practice the professions in question. It will be noted that the 1935 Revenue Code also includes a license schedule for those engaged in the practice of medicine. (Schedule 106, p. 286). It could not be argued that one would be entitled to practice medicine by the mere securing of a license under this schedule without complying with the provisions of Section 2837, as to obtaining the certificate of qualification thereunder. The same is true of Schedules 101 and 124, supra. Moreover, Schedule 132 of the compiled Revenue Laws of 1929 (Acts 1919, p. 282, Section 361, Schedule 77) provides for a license for osteopaths.

From the foregoing it follows that if one desires to engage in the practice of any profession within the contemplation of Section 2837, Code of 1923, supra, (viz. practicing medicine), he must first obtain the certificate of qualification required thereunder, the various license schedules to the contrary notwithstanding. If said certificate or qualification is not obtained and one pursues any of the professions, which require said certificate, criminal liability would attach under Section 5191 of the Code of 1923, supra. Also, quo warranto proceedings may be instituted under Section 9932, Code of 1923.

Yours very truly,

A. A. Carmichael,  
Attorney General.

## DEPARTMENT OF PUBLIC HEALTH

### BUREAU OF LABORATORIES

James G. McAlpine, Ph.D., Director

### MEDICOLEGAL AND TOXICOLOGICAL EXAMINATIONS

Since County Health Officers and practicing physicians are frequently consulted concerning deaths or injuries which are suspected to have occurred from unnatural or criminal causes, the provisions made by the recent Legislature for the proper medicolegal and toxicological examinations of such cases should be thoroughly understood. Formerly, medicolegal tests for blood stains

were run by the Bureau of Laboratories of the State Department of Health. Examinations for poisons in human cadavers, foods or medicines were performed by the State Chemist on written request by the Judge of Probate in the county where the alleged crime was committed, and paid for by that county.

"An act to create a State Toxicologist, to fix the duties and compensation of such toxicologist, and to make an appropriation to carry out the provisions of this act" was passed by the last Legislature and approved by the Governor on July 17th, 1935. Ac-



cording to the provisions of the act, Mr. H. W. Nixon has been appointed State Toxicologist with an office and laboratory in Auburn. Therefore, all material to be examined for poisons, and objects containing suspected blood or seminal stains which are directly connected with criminal cases should be forwarded to him, along with an official order for the examination.

Section 3 of the Act reads as follows:

THE DUTIES OF THE STATE TOXICOLOGIST

(Section 3 of the act creating the office of State Toxicologist. This section enumerates the duties of said toxicologist.)

SECTION 3: The duties of the State Toxicologist shall be to make toxicological examinations or chemical analyses of any dead human bodies, any human foods, any human beverages, and any human medicines that are suspected of containing poisons or substances of harmful character; and the State Toxicologist shall make examinations of bloodstains or other stains of legal significance to the State of Alabama; and the State Toxicologist shall cooperate with the State Veterinarian in his investigations of deaths of domestic animals in cases of suspected poisoning of such animals; such examinations and analyses shall be made when so ordered by any Circuit Judge, Circuit Solicitor, or the Commissioner of Agriculture in Alabama; and the State Toxicologist shall report his findings to the Circuit Judge or the Circuit Solicitor in the Circuit from which the order comes. The State Toxicologist shall perform such other duties as are assigned by the Governor or the Attorney General of Alabama. It shall be the further duty of the State Toxicologist to prescribe and issue rules and regulations governing the taking and transmission to and from his office of any and all specimens of substances referred to in Section 3 in this act. The State Toxicologist shall cooperate with the Coroners and County Solicitors of Alabama in their investigations of deaths from unnatural causes and shall within his discretion visit the scene of death for the purpose of securing medicolegal evidence for the State of Alabama.

It will be seen from this that the State Toxicologist has manifold duties and performs them at the request of any Circuit Judge, Circuit Solicitor, the Commissioner of Agriculture, the Attorney General, or the Governor of the State. However, one point should be emphasized. The Attorney General has ruled that the State Toxicologist shall not perform tests or render expert testimony in civil suits; his services are to be used solely for criminal cases in which the State of Alabama is directly interested. The justice of such a ruling is obvious because the time of one man is limited, and civil suits are exceedingly numerous.

There are two points in medicolegal work that are frequently overlooked. The first of these is the proper collection of the sample which is to be sent to the toxicologist. The second is the method by which this specimen is forwarded to the laboratory.

The proper collection of the specimen is extremely important, especially in cases of suspected poisoning. A case which occurred fairly recently in Alabama will serve to illustrate this point. A person in one of the counties had died under suspicious circumstances, and strychnine was thought to be the cause of death. Consequently the stomach contents of the deceased were forwarded to the State Chemist for examination. These were negative for the poison in question. Further investigations indicated that the poison had been injected and not ingested. If the proper specimens had been collected, the poison, if present, would have been detected. The last two sentences of Section 3 of this Act, which have been quoted above, take care of this problem. The State Toxicologist may "prescribe and issue rules and regulations governing the taking and transmission to and from his office of any and all specimens." Furthermore he is empowered to "visit the scene of death for the purpose of securing medicolegal evidence." From this it will be seen the State Toxicologist is available for consultation at all times, and, when there is a question, he may come in person in order to collect the specimens.

If the specimen is not forwarded in the correct manner, authenticity is immediately lost, and the testimony of the expert is oftentimes thrown out. Under no circumstances should samples for medicolegal examinations be sent by ordinary mail. They should be registered and directed to the person in charge of the laboratory. Frequently specimens are forwarded to the Bureau of Laboratories under regular cover and not registered. In such cases they are opened by the desk clerk and may pass through several hands before the director is notified. In this way their authenticity is nullified, and an otherwise strong case may be broken down. All specimens for medicolegal examination should be most carefully sealed, registered, and sent to the responsible individual.

In conclusion it should be said that the

Bureau of Laboratories of the State Department of Health will continue to make bacteriologic examinations for food poisoning. At all times every effort should be made to preserve the authenticity of the specimen if it is liable to be a court case. Registered mail should be used, and the package addressed to the Director of Laboratories. If it is a canned food, an unopened container should also be sent if possible. When there is doubt whether it is bacterial or chemical poisoning, the specimen should first be sent to the Bureau of Laboratories in Montgomery, that a proper sample may be taken for bacteriologic examination, and then it will be forwarded to Auburn for chemical analysis. It is most important that the specimen be received at Montgomery first, because this will prevent further contamination which might occur in the sampling for chemical work.

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## BUREAU OF SANITATION

G. H. Hazlehurst, Director

### PONDS AND LAKES AND THEIR RELATION TO MALARIA

Ponds and lakes come under two principal classifications; namely, natural and artificial. Natural ponded areas include numerous types such as lime sinks, old stream channels and swampy flat areas where drainage is very slow. All of these areas do not contain water throughout the year; some of them dry out completely during the summer and the water level in others is lowered during periods of little rainfall.

Artificial ponds and lakes are created by the construction of dams across streams or drains or by excavation, the size varying from mere pools to lakes of many acres. These projects are man-made and are created for various purposes, such as for generation of electricity, propagation of fish, navigation, recreation, and water supply for culinary and industrial use. The ownership of these projects includes governments, corporations, clubs and individuals. At present the largest lake in Alabama is Martin Lake on the Tallapoosa River which covers 40,000 acres when full. The lake to be formed by the General Joe Wheeler Dam, now under construction on the Tennessee

River, will have an area of approximately 90,000 acres and extend about eighty-five miles up the river.

Aquatic and semi-aquatic plants are associated with bodies of water as the term "aquatic" implies. These plants have a distinct bearing on mosquito production in that they furnish protection against fish for the larvae and through the process of decay provide food for them. A clean water surface and water edge, together with the top feeding minnows, *Gambusia affinis*, render the area practically free of mosquito breeding. The control and eradication, if possible, of aquatic and semi-aquatic plants, therefore, are of primary importance in the prevention of mosquito breeding in our ponds and lakes. The chemical contents of the water and soil appear to have a bearing on the type plants and their growth in these projects. Some have little or no plant life and others have numerous species growing abundantly. It is impossible to accurately predict conditions that will prevail on an artificial body of water as it ages. Some projects appear to reach a biologic stage unsuitable for mosquito breeding, whereas other projects become more suitable for mosquito production as they become older.

It is a known and universally accepted fact that water is essential for mosquito production. Mosquitoes have habits and preferences as does man. Some species of mosquitoes prefer to lay their eggs in water along the edge of fresh moving streams, others prefer clean, clear ponded water with grassy margins, others prefer water polluted with sewage, and some will not breed in water in direct contact with the soil. Unfortunately, certain types of mosquitoes are capable of transmitting diseases of man, one disease being malaria. The mosquito found in Alabama that is capable of transmitting malaria breeds by preference in ponds and lakes of both classifications. Females of this species will travel a distance of one mile or more from the breeding area in search of blood, essential for the development of her eggs.

The fight to reduce malaria has been directed at the mosquito through the elimination of the breeding places, by drainage or filling; at preventing mosquito breeding in ponded areas by biologic changes through water level fluctuation, the application of



larvicides (oil and Paris green), and through maintaining a clean water surface and stocking with gambusia minnows. The elimination of the breeding places is the idea but economics enter and make it impossible to reach this goal for some natural ponded areas. Control measures for the prevention of mosquito breeding have to be relied upon on the artificial, created, projects. However, close study and serious consideration should be given a proposed project before construction is inaugurated as the control measures are rather expensive on some lakes and ponds. The existence of natural ponds and lakes in an area should be no excuse for permitting artificial projects to breed mosquitoes for the possibility of malaria transmission increases as the *Anopheles quadrimaculatus* mosquito population increases.

The reduction of malaria in an area with natural ponded areas depends on each individual of the entire population entering the fight and doing his part. A start has been made and the cooperation of all is needed to drive this dreaded disease out of the State and out of the South.

F. B. W.

## BUREAU OF PREVENTABLE DISEASE CONTROL

D. G. Gill, M. D., Director

### A FEW FACTS ABOUT CHILDHOOD TYPE TUBERCULOSIS

The childhood type of tuberculosis is the name adopted by the National Tuberculosis Association to describe the diffuse or circumscribed lesions in the lungs and associated tracheobronchial lymph nodes that result from first infection of pulmonary tissue with tubercle bacilli. As a rule, only diffuse infiltrations or consolidations give rise to abnormal physical signs. The tuberculin test is first used to determine whether the individual has been infected. The x-ray is our only method of demonstrating the presence of the usual childhood type lesion.

McPhedran describes the following conditions as possible x-ray findings in childhood type tuberculosis:

1. A circumscribed or more diffuse infiltration a few centimeters in diameter to

nearly a whole lobe with or without uncalcified tracheobronchial nodes.

2. A small nodule in the lung with or without visible nodes in the hilum.

3. Partially calcified tracheobronchial nodes and no obvious disease in the lung.

4. Circumscribed masses of caseous nodes projecting outward from the hilum or mediastinum.

5. Occasional cases with diffuse infiltration which is not absorbed and develops a caseous center. This type lesion may go on to spread or may retrogress and heal.

Enlargements of the mediastinum and so-called thickened hilum shadows are found so frequent in tuberculin negative children that these findings no longer constitute an x-ray diagnosis of childhood type tuberculosis.

The prognosis in childhood type tuberculosis is good and in fact most cases require nothing more than a break of the existing contact, usual hygienic care, and periodic examinations to safely handle the condition. The rarer forms of large caseous glands, multiple parenchymal lesions and the infiltrative lesions require the equivalent of sanatorium care but even these are not communicable forms of tuberculosis. A child presenting the usual calcified primary focus with or without calcified tracheobronchial glands and free of symptoms requires no particular restrictions and is certainly not to be excluded from school.

As to the potential danger of childhood type tuberculosis, it is found that a certain number of such cases break down at adolescence so that it is most desirable to re-x-ray them every 6-8 months during this period.

### CONCLUSIONS

1. Tuberculin testing and x-ray studies are required to properly diagnose childhood type tuberculosis.

2. The immediate danger of this type lesion is very slight especially if the source of infection is known and the contact broken.

3. The physician must always keep in mind the fact that adult type tuberculosis can occur in children and that this type of the disease is most serious and usually communicable.

4. The potential danger from childhood type tuberculosis manifesting itself as a re-

infection adult type lesion around adolescence and early adult life makes it desirable to observe and re-xray these cases at that time.

R. A. B.

#### POSITIVE WASSERMANN AND DIAGNOSIS OF SYPHILIS

Is a positive Wassermann reaction diagnostic of syphilis? This question may be answered in the affirmative or the negative. It is an aid in establishing the diagnosis of syphilis when all clinical signs and symptoms are suggestive of lues. But with an absence of signs and symptoms of syphilis, a positive Wassermann should not establish a diagnosis. False positives do occur. To brand a patient with syphilis on one positive Wassermann reaction with no other signs suggestive of lues is the worst form of calumny that anyone could wish on another person. It would be better to repeat the serologic test three or four times before judgment is passed. False positive reactions seldom repeat themselves, but a true positive will repeat itself at least three out of four times and usually four out of four times. It is worthwhile, then, to give the patient the benefit of doubt when a single Wassermann test is the only sign suggesting syphilis.

#### BUREAU OF VITAL STATISTICS

Leonard V. Phelps, Director

#### SUMMARY OF ANNUAL REPORT FOR 1934

*Births.* The downward trend of the birth rate, which began in 1928, terminated in 1934. The rate was 23.3 per 100,000 population, which is approximately equal to the rates in 1931 and 1932.

*Death Rates.* The death rate (10.7 per 1,000 population) showed a marked increase over the rate in 1933, thereby ending the steady decline in the mortality rate which began in 1930. The infant mortality rate, however, advanced to its highest point (67.3 deaths under one year per 1,000 live births) in the four year period (1931-1934). The maternal mortality rate (61.0 deaths per 10,000 total births) is the lowest on record.

The death rates from childhood diseases and also from causes of death in the older

age groups present a very unfavorable picture of mortality rates recorded in 1934.

*Deaths From Childhood Diseases.* The death rate from measles (12.4 per 100,000 population) reached its highest point in ten years; whooping cough (13.1), in seven years, and diarrhea and enteritis under 2 years (22.2), in four years. Diphtheria also increased, reaching a rate of 6.1, exceeding the rate for the preceding year. The death rate from scarlet fever (0.6) continued its decline for the second consecutive year.

*Deaths from Other Important Causes.* The death rates from the following causes of death, in 1934, were the highest ever recorded: Cerebral hemorrhage (72.1), homicide (26.3), motor vehicle (18.9), cancer (57.7), diseases of the heart (148.8), diabetes (11.0). The death rate from acute and chronic nephritis (81.7), was the highest to be recorded in five years. Typhoid fever (4.9) increased above the rate for the preceding year. However, it is still the second lowest figure on record. The rate from pneumonia, all forms, (81.3) has been steadily increasing since 1932.

It is gratifying to note that the rate from tuberculosis, all forms, (64.2) has decreased year after year since 1931. The death rate from influenza was the lowest to be recorded during the decennial period, 1925-1934.

*Marriages.* The increase in the birth rate may have been expected because the number of marriage licenses issued in 1933 was the largest on record. The number of marriage licenses issued in 1934, however, was 32,376, exceeding that of the preceding year by 175 to establish an all-time high record.

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*Tuberculosis in College Students*—The college age should be further emphasized as an age where tuberculosis is still claiming many victims. This disease causes more deaths between the ages of 15 and 45 than any other disease, with actual deaths reaching the high point for all ages between 20 and 24. Mortality rates show a slightly different picture, but here again the death rates increase rapidly between 10 and 20 and the high point for women is between 20 and 24. We are all familiar with the striking decline in death rates from this disease in recent years, and there has been a consequent decline in rates of the young adult age groups, except that the decline has been less for young women than for young men.—*Shepard, Am. J. Pub. Health, October 1935.*



## CURRENT STATISTICS

## \*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

	August	Sept.	Estimated Expectancy Sept.
Typhoid	69	74	117
Typhus	70	27	14
Malaria	2493	1617	834
Smallpox	1	0	3
Measles	26	20	53
Scarlet fever	34	53	116
Whooping cough	60	51	78
Diphtheria	104	178	261
Influenza	54	80	45
Mumps	23	19	15
Poliomyelitis	9	4	7
Encephalitis	4	5	3
Chickenpox	6	7	9
Tetanus	2	7	5
Tuberculosis	265	237	355
Pellagra	49	36	52
Meningitis	2	5	4
Pneumonia	56	65	60
Syphilis	858	802	183
Chancroid	13	8	5
Gonorrhea	470	316	192
Ophthalmia neonatorum	1	4	1
Trachoma	0	0	0
Tularemia	0	0	0
Undulant fever	7	6	3
Dengue	17	1	0
Amebic dysentery	6	0	0
Rabies—Human cases	0	1	0
Positive animal heads	62	71	...

\*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years. With the venereal diseases, clinic cases were not included prior to this year.

## Book Abstracts and Reviews

**Public Health Administration in the United States.** By William G. Smillie, A. B., M. D., Dr. P. H., Professor of Public Health Administration, Harvard School of Public Health. Cloth. Price \$3.50. Pp. 438. New York: The Macmillan Company, 1935.

Since Dr. Smillie spent several years working in Alabama, this book should be of especial interest to public health workers and the medical profession of this state. Numerous references to the methods employed by the Alabama State Department of Health will be found in the text. It is gratifying to note that the accomplishments of the late Dr. Havens in the fields of diphtheria immunization and laboratory organization are stressed and appreciated.

In his introduction Dr. Smillie states "it is undoubtedly true that there is a real need for a book of this type. There is no single place where the student of public health can turn to secure ready information concerning the various phases of public health administration as now practiced in the United States." But, he immediately calls attention to the danger of such a text. Public health is dependent on the principles of preventive medicine, and these are in a state of constant change. For this reason "public health must be dynamic, not static." The book should not, therefore, be taken as an authority but merely as a guide.

The book is divided into four parts. The first deals with the functions of any health organization and also gives an historical sketch of the development of health administration in the United States.

The second part is concerned with the administrative control of the various communicable diseases and the third with the basic activities of a health organization. In part four Dr. Smillie takes up the organization of public health programs, and peers into the future.

After quoting Dr. Winslow's definition of public health as "the art and science of preventing disease, prolonging life and promoting physical and mental efficiency through organized community effort," Dr. Smillie in Part I discusses the desirable minimum functions of a community health service. These functions he lists as follows: sanitation, control of communicable disease, public health education, individual health protection and promotion, research in disease prevention, and the development of a social machinery to insure each individual a standard of living that is adequate for the maintenance of proper health. Part I is concluded with a brief chapter on the development of public health administration in the United States. It is interesting to note that the first state board of health was established in 1869 and that Alabama stands eighth on the list, with its board organized in 1875, six years later.

In Part II administrative principles of communicable disease control are considered. From the standpoint of isolation the author states "hospitalization is fairly wide spread in the United States, particularly in the larger municipalities. No one questions the value of the procedure in typhoid fever, meningitis, poliomyelitis and tuberculosis. Complete hospitalization of other communicable diseases is a very expensive procedure because of the irregularity of the load. The plan would be more feasible if communicable disease hospitalization could be administered as a part of a general hospitalization program."

Diphtheria, scarlet fever, septic sore throat, measles, whooping cough, mumps, chickenpox, typhoid fever, tuberculosis, venereal diseases, acute respiratory diseases, smallpox, malaria, rabies, poliomyelitis, meningococcus meningitis, intestinal parasites and undulant fever are treated briefly. Attention should be called to several points in these discussions. In diphtheria proper emphasis is placed on the immunization of the pre-school group. Because scarlet fever has become milder, it is more difficult to control from the administrative standpoint, because parents are less afraid of the disease. Dr. Smillie believes that vaccination against typhoid is unnecessary under three years of age and in persons over sixty years. Some may doubt the feasibility of this in the lower age groups. He states that small tuberculosis hospitals—those containing 75-100 beds—are not economical and the average cost per year per patient in the United States is \$1,200.00 which does not include initial costs or depreciation. This figure is undoubtedly high for the Southern States where fuel and labor costs are lower than in other sections. For smallpox control he recommends vaccination before the first birthday and revaccination before the child enters school. Some will maintain that a longer time should intervene before revaccination.

The author in Part III discusses the basic activities of a health organization. Under this heading

he includes vital statistics, epidemiology, the public health laboratory, sanitation and sanitary inspection, child hygiene with its various ramifications, public health education, mental hygiene, industrial hygiene, nutrition and adult hygiene. The organization of these bureaus, their interrelationships, the qualifications of their personnel and the necessary budgets are given consideration. Dr. Smillie believes that mental hygiene should be allocated to a special state "Department of Mental Hygiene" while "a separate division of industrial hygiene in the health department of any industrial state is highly advantageous" if certain duties and activities are allocated to the State Department of Labor. The advantage of a competent nutritionist attached as a consultant to any health department is pointed out. The controversial subject of adult hygiene is discussed and the importance of early diagnosis and the dissemination of correct information on cancer, diabetes and heart disease is emphasized. In a way the tuberculosis clinics which are now sponsored in Alabama by the State Department of Health might be classified in part as an example of adult hygiene. The role of public health education is stressed.

The organization of public health programs is given consideration in Part IV. The services of the municipal, rural, state and federal health departments, together with their interlocking activities and the qualifications of their personnel, are discussed. There appears to be considerable repetition in this section, but Dr. Smillie states that this was done purposely in order to properly emphasize certain points. Although he shows that the states are the sovereign powers in our government, he believes that with the growth of local health service the activities of the state health department will become less extensive. He claims that the "normal function of a state health department would seem to be consultative and advisory," but there are certain activities, such as vital statistics, epidemiologic research, the preparation of biological products and many diagnostic tests which are integral parts of state health department's practice. He maintains, however, that leadership is the essential function of the state health department.

The activities of voluntary health organizations receive attention. He considers that it is a questionable procedure for these agencies to render direct health service to the people, but believes popular health instruction, advisory and consultative service, training of personnel and research are within their provinces. The roles of the health department and the Red Cross are taken up under disaster relief.

The relation of the practicing physician to a public health department receives adequate treatment in this section. The importance of the private physician in public health practice is well recognized because a health department is dependent upon him for the proper reporting of births and deaths and the early recognition and reporting of communicable diseases. For the latter purpose free laboratory service has been very generally established to help him in making his diagnoses. Furthermore, Dr. Smillie points out that health departments will undoubtedly relinquish immunization programs

whenever the physician incorporates standard preventive procedures in his private practice. The utilization of the services of the local physicians in tuberculosis and venereal disease clinics, in child hygiene clinic service, school hygiene and adult hygiene is discussed.

The chapters on the appraisal of health activities, the training of public health personnel and budgets and budget making will be of special interest to the public health official.

In conclusion Dr. Smillie attempts to forecast future trends although he realizes it is a risky procedure. He emphasizes the fact that public health is one small portion of government and any modifications in procedure "must be integrated with other governmental activities." Communicable disease, with its terrifying epidemics, he believes, will continue to decline, and environmental sanitation will make great advances in housing, food sanitation, air conditioning and industrial hygiene. Adult hygiene will be unnecessary because of proper child care and education. Optimistically he foresees that all the 3,000 counties in the United States will be provided with adequate health service and this within a relatively short time. He believes that the future will witness more and more decentralization in health work. Preventive medicine will be incorporated in private practice and suitable compensation will be provided for this service. The possible fusion of health and welfare activities receives consideration. Again the importance of trained personnel for health activities is emphasized.

The book is well printed and is remarkably free from typographical errors. There are twenty-three illustrations, including graphs and charts. All who are interested in public health activities will find this book most readable and a mine of useful information.

J. G. McA.

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**Clinical Diagnosis by Laboratory Methods:** By James Campbell Todd, Ph.B., M. D., Late Professor of Clinical Pathology, University of Colorado, School of Medicine; and Arthur Hawley Sanford, A. M., M. D., Professor of Clinical Pathology, University of Minnesota (The Mayo Foundation); Head of Section on Clinical Laboratories, Mayo Clinic. Eighth Edition, thoroughly revised. 792 pages with 370 illustrations, 29 in colors. Philadelphia and London: W. B. Saunders Company, 1935. Cloth. \$6.00 net.

A previous edition of this book was used by the reviewer during medical school days and hospital internship and served as a guide in starting three laboratories. It has since been a constant companion to his laboratory assistant and is often referred to as the "Laboratory Bible." He has always found every laboratory procedure of any value in its pages and the description of technique, though brief, was always adequate. The notes on interpretation of laboratory findings make this book of much value to the clinician as well as to the pathologist.

In twenty-seven years, the book has undergone eight editions. The new edition contains much more material than the previous one. The following is a partial list of this new material: the Van Allen thrombocytocrit, plasma platelet counts, filamentous filament counts; new classification of anemias, sickle cell anemia, infectious mononucleosis; agranulocytosis, sedimentation test; new blood chemical



procedures—uric acid, cholesterol, chlorides, calcium, iron, etc.; bile pigments and liver function tests, and new methods for preparation of colloidal gold solution. There is an enlarged chapter on animal parasites and bacteriology.

C. K. W.

**A Textbook of Clinical Neurology:** By Israel S. Wechsler, M. D., Professor of Clinical Neurology, Columbia University, New York; Attending Neurologist, Neurological Institute and The Montefiore Hospital, New York. Third Edition, Reset. 826 pages with 162 illustrations. Philadelphia and London: W. B. Saunders Company, 1935. Cloth. \$7.00 net.

After an interval of four years, Doctor Wechsler has revised his text-book of Clinical Neurology making additions and revising much of the old material to bring it up to date. Over a hundred pages are devoted to the history and examination of neurological cases. The remainder of the book dealing with the various neurological diseases is characterized by its conciseness, the lack of controversial discussion, and a clarity of description which should make an appeal to the practitioner of medicine. A brief history of neurology has been added by the author in the belief that those who practice a profession are interested in its origin. In the pages of this brief history appear the names of hundreds of men whose contributions have made neurology a true science.

C. K. W.

**The American Illustrated Medical Dictionary.** A complete Dictionary of the terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Nursing, Veterinary Science, Biology, Medical Biography, etc. By W. A. Newman Dorland, A. M., M. D., F. A. C. S., Lieutenant-Colonel M. R. C., U. S. Army; Member of the Committee on Nomenclature and Classification of Diseases of the American Medical Association. With the collaboration of E. C. L. Miller, M. D., Medical College of Virginia. Seventeenth Edition, Revised and Enlarged. Octavo of 1,573 pages with 945 illustrations, including 283 portraits. Philadelphia and London: W. B. Saunders Company, 1935. Flexible and stiff binding. Plain \$7.00 net. Thumb index \$7.50 net.

Anyone who does even a small amount of medical reading is frequently faced by a strange word which has crept into our medical vocabulary and perhaps equally as often by certain old terms the exact meaning of which are somewhat in doubt. One cannot read with the maximum benefit unless one has a medical dictionary at hand. The American Illustrated Medical Dictionary has been highly praised in these columns in a previous issue. The new edition—the seventeenth since 1900, has been brought up to date after three years of work by the author and a large group of collaborators. Several thousand new terms have been added and defined. Many of the older terms have been revised. The staff of the American Medical Association has assisted in the editing so that the spelling and definitions may be considered as officially correct.

C. K. W.

**New and Nonofficial Remedies, 1935.** Containing Descriptions of the Articles Which Stand Accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1935. Cloth. Price, \$1.50. Pp. 510. Chicago: American Medical Association, 1935.

In this book the Council on Pharmacy and Chemistry lists and describes the medicinal preparations that it has found acceptable for general use by the

medical profession. A glance at the list of the Council members and the long list of consultants appearing in the first part of the book gives ample warrant for the authority of the Council's selections.

Not only does the Council "accept" new preparations but from time to time it omits those which have been accepted but which have not with the lapse of time upheld their original promise of therapeutic merit. The list of omissions for 1934 shows that the Council has been mainly concerned in this respect with *B. acidophilus* preparations and with antiseptics. Several preparations of each class have been omitted. The list of admissions does not reveal the presence of any preparation that promises to be epoch making in the sense that insulin was, for instance. However, the following newly accepted preparations are noteworthy: Carbarsone, an arsenical used chiefly in the treatment of amebiasis (the Council published a special report on this drug, supplementing the preliminary report of 1932); Hippuran and Diodrast, two different types of urographic contrast mediums; Carotene, the precursor of vitamin A; Dilaudid, a substitute for morphine; Neo-Synephrin Hydrochloride, which has a number of advantages as a vasoconstrictor over synephrin tartrate; and Diothane, which represents a type of local anesthetic entirely different chemically from any heretofore accepted for N. N. R.

The description of products containing vitamins A and/or D has been revised to give the potencies in terms of the recently adopted pharmacopeial units, thus bringing some measure of uniformity into this heretofore chaotic field. No doubt the book will be revised next year to conform with the new Pharmacopeia in its entirety.

A valuable feature of the book is the grouping of preparations in classes. Each of these is introduced by a general discussion of the group. Thus the silver preparations, the iodine preparations, the arsenic preparations, the animal organ preparations and the biologic products are each preceded by a general discussion of the particular group. These general articles compare the value of the products included in the group with similar pharmacopeial and other established drugs which it is proposed that these proprietary preparations shall supplement or supplant.

Physicians who wish to know why a given proprietary is not described in New and Nonofficial Remedies will find the "Bibliographical Index to Proprietary and Unofficial Articles not included in N. N. R." of much value. In this section (in the back of the book) are given references to published articles dealing with preparations that have not been accepted. These include references to the Reports of the Council, to Reports of the A. M. A. Chemical Laboratory and to articles that have appeared in The Journal.

**Annual Reprints of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association for 1934, with the Comments That Have Appeared in The Journal.** Cloth. Price, \$1. Pp. 135. Chicago: American Medical Association, 1934.

Each succeeding volume of reports of the Council reveals more of the long and successful fight in the interest of rational therapeutics. The Council

is no longer chiefly concerned with noisome proprietaries and yet this latest volume contains reports on such articles as "Vita-Cell," a secret preparation marketed with exaggerated claims, and "Raylos," a shotgun preparation marketed in a way to promote its ill advised use by the public. Most of the "unacceptable" reports in this volume are concerned with products that may have some merit but are not offered to the public in a way which experience has taught the Council is necessary before a therapeutic agent is acceptable. Such products are Iodine Dusting Powder (Sulzberger), rejected for lack of clinical evidence of its advantage over one of its constituents; Pernoston, rejected because of lack of clinical evidence to justify routine intravenous injection of barbital compounds; Di-Hydranol, a claimed bactericidal agent proposed for use as an "intestinal antiseptic," a claim not supported by sufficient clinical evidence; and Squibb Adex Tablets, a product containing a concentrate of vitamins A and D, for which the firm could not agree to adopt a more informative name.

To those who have followed the Council's investigation of *B. acidophilus* therapy, the report "*Acidophilus Bacillus Liquid-Mulford and Mulford Acidophilus Bacillus Block Omitted from N. N. R.*" will be of interest. The Council has apparently not yet reached an ultimate conclusion concerning acidophilus therapy, but it has for years held that no product could be expected to be of value unless it could show at least one hundred million viable *B. acidophilus* organisms at the "date of expiration." Competent bacteriologic examination showed that the two preparations here reported were inferior to this standard. Further grounds for omission were the failure of the manufacturer to comply with certain stipulations in regard to labels and advertising. Another noteworthy omission is that of Alpha-Naphco and its dosage forms, omitted because the Council on reconsideration found that it is a weak antiseptic.

The Council also issues preliminary reports, which define the status of new preparations for which the evidence is not yet sufficient to justify their presentation to the medical profession generally. Preliminary reports do not imply rejection but rather postponement of consideration until more evidence is reported by competent investigators. These reports are the outposts of therapeutic progress and as such are valuable sources of information to physicians. In this volume there are preliminary reports on Adrenal Cortex Extract, concerned mostly with scientific terminology, Cysteine Hydrochloride, Dihydroxy-Anthranol (Anthralin), Gastric Mucin, Hemoprotein (Brooks), Phenylmercuric Nitrate and Phenylmercuric Chloride.

Illustrative of the Council's efforts to keep those concerned informed of the basis for its actions are the "Recent Revisions or Elaborations of the Council's Rules of interest to Manufacturers and the Medical Profession," which have appeared in the last two volumes. These inform the profession of the various problems which arise and the care given to their consideration. To be commended also is the "Report on Sterility of Ampule Preparations."

## Truth About Medicines

### PROPAGANDA FOR REFORM

Dangers of Slimming:—Repeatedly and emphatically The Journal has published statements relative to extraordinary hazards involved in the sudden reduction of weight, occasionally described as banting, slimming, thinning, slenderization and in other ways. From the time dinitrophenol was first proposed as a product with specific favorable attributes for this purpose, The Journal warned against its uncontrolled use, because the product itself is not standardized and because there was hardly sufficient evidence available to say what the ultimate effects of the drug might be. Now it appears that one of the ultimate and disastrous effects is in some persons rapidly developing cataracts. Dinitrophenol now forms the basis of a half dozen or more "patent medicines", including one called "Slim," which has been confiscated under the Food and Drugs Act, as well as others called Nitromet, Dinitrolac, Nitra-Phen, Dinitriso, Formula 281, Dinitrose, Nox-Ben-Ol, Re-Du, Aldinol, Dinitronal, Prescription No. 17, Dinitrole, Tabolin and Redusols. In calling attention to these products Mr. W. G. Campbell, chief of the Federal Food and Drug Administration, says: "It is interesting to note that all the so-called reducing preparations on the market fall into three categories: first, laxatives that deny the body the benefit of its food intake, as the salts, crystals and herb teas; second, obvious frauds that depend for effect upon the stringent diets prescribed as part of the 'treatment,' as 'Syl-Vette' and 'Stardom's Hollywood Diet'; and third, the unquestionably effective but dangerous articles containing thyroid or dinitrophenol, both of which act by speeding up the utilization of food. All of them are unwarranted impositions upon the public, which cannot evaluate claims made for the preparations and cannot readily appreciate the harm that may result from careless use of the products." His pronouncement is well warranted by the evidence available. (J. A. M. A., September 7, 1935, p. 804.)

Can The Leopard Change Its Spots?—The "patent medicine" interests have decided that another housecleaning is called for.



In August 1934 there was published in the *Editor and Publisher* an article entitled "Proprietary Association Begins Clean-Up." In this it was stated that the Proprietary Association—the present name for the organized "patent medicine" interests—had created an Advisory Committee on Advertising, which would draw up an "Outline of Ethical Practices in Proprietary Advertising." In June of this year the *New York Times* reported that the Proprietary Association was about to "launch a comprehensive program of research." The same article stated that Dr. Frederick J. Cullen (formerly Chief of Drug Control of the Department of Agriculture), general representative of the Proprietary Association, was also serving, *ex officio*, as secretary. There has recently been issued (August 28, 1935) what is presumably one of the first pieces of work in this field. In April 1933 the Department of Agriculture issued under Dr. Cullen's name a bulletin warning the public against the coated laxatives that contain phenolphthalein. Now the Proprietary Association, under Dr. Cullen's name, sends Bulletin 6365 to all its members in which Dr. Cullen states that the government bulletin (April 1933) issued by him was based on information gathered from medical textbooks and from a report made by a physician in one of the medical journals (the report of the case of a small child who ate a complete box of the "candy laxative" known as "Ex-Lax" and promptly died). It appears that Dr. Cullen today has decided, "a more exhaustive study of the effects of phenolphthalein since the issuance of that article has resulted in a change in my opinion as to its harmful effects." Undoubtedly the "patent medicine" interests are on the defensive and presumably will spare no expense to convince a gullible public that its business is a public-spirited activity. But those who have followed critically the devious methods of the "patent medicine" business for more than a quarter of a century may be excused for holding to the well established opinion that the leopard does not change its spots. (J. A. M. A., September 21, 1935, p. 971)

**The Vitamin Alphabet.**—For many years the term "vitamin" has been employed for an ever growing group of principles of un-

known chemical constitution occurring in the diet and necessary to health or, ultimately, to life. In order to avoid difficulties in the nomenclature of these dietary factors, McCollum suggested that alphabetical designations be employed for them until such time as chemical names could be assigned. Since then "vitamin A, B, C" and so on have been used almost uniformly in the literature, though not always to designate the same substances. As pointed out by Moldaven (*Science* 81: 639, June 28, 1935): "The crystallization, the isolation and our more or less definite knowledge of the physiological properties of the so-called vitamins show that there is no longer any scientific basis to maintain such widely different chemical substances as carotenes, ascorbic (cevitamic) acid, irradiated sterols, pyrimidine-thiazole compounds, sodium phosphate, manganese compounds, etc., under the same heading, except perhaps for historical purposes . . . Antineuritic, antiscorbutic, antirachitic, antianemic, antigoitric, etc., substances should be classified with the chemical family to which they belong or grouped with the natural or pharmaceutical substances which have closely related physiological properties." This is in accord with the conclusions of the Council on Pharmacy and Chemistry. The association of a number of unrelated essential dietary factors under one name has had several undesirable results, particularly in therapeutics. Mixtures containing almost every conceivable combination of vitamins, some including also other real or alleged dietary essentials, have been offered to the medical profession by drug manufacturers. As the Council points out, the functions of the vitamins are as diverse and independent as their chemical constitution would indicate. The Council emphasizes the necessity of considering concentrated preparations of these agents in the same light as drugs, and states that "the administration of complex vitamin preparations is open to all of the objections that may be urged against the routine use of mixtures containing ingredients in fixed proportions." (J. A. M. A., September 28, 1935, p. 1040.)

**Shotgun Vitamin Therapy.**—The American people have been made "vitamin-conscious." Popularization of the compara-

tively recently acquired and constantly growing knowledge of the various vitamins has resulted in many errors and misconceptions. Among these misconceptions are the ideas that everybody needs to take supplements of all the vitamins all the time and that it is both therapeutically and chemically advisable to combine all or some of the vitamins, perhaps with some mineral or minerals, in one preparation. From a physiologic standpoint it is just as irrational to prescribe a mixture of a number of the vitamins as a combination consisting of cystine, iodine, iron, and linoleic acid or any other combination of dietary essentials. The functions of the vitamins are as diverse and independent as their chemical constitution would indicate. It is not perhaps surprising that efforts have been made to supplant the use of the various natural vitamin containing substances by preparations of highly potent concentrates, either singly or in combination, and also by their combination with minerals in mixtures, in tablets and in capsules. The Council on Pharmacy and Chemistry points out that there has been practically no experimental or clinical evidence which tends to show that vitamin concentrates are enhanced or have any supplementary action when given in combination, either for prophylaxis or for therapeutics. It has also been shown that certain inorganic, organic and even physical agents may destroy the potency of vitamins with which they come in contact; that there is ever increasing evidence that a delicate interrelationship exists between vitamins, because of either a physiologic relationship or actual incompatibilities of various vitamins; and that the administration in combination of concentrates of vitamins, each of which is active independently, may so alter the effectiveness of each as to render it inadequate or to necessitate an increase in its dosage. The attempt to supply a sufficient amount of a single vitamin concentrate specially indicated, when a mixture of vitamins is prescribed, may result in an excess of the remaining active agents. The possibility of harm from such excess must be kept in mind. The Council concluded that there is a wide field for the study of this question. The Council therefore will not accept mixtures containing vitamin concentrates until the manufacturers are able to present adequate evidence of their

rationality. This does not refer, however, to concentrates of vitamins A and D, which occur combined in nature as such in cod liver oil; nor does it apply to any combinations of vitamins that may occur in nature in therapeutic amounts. (J. A. M. A., September 28, 1935, p. 1037)

#### ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following products have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

Mazda CX and Mazda C Lamps Acceptable.—These lamps are recommended by the firm as sources of infra-red energy and may be used for therapeutic purposes. They are of the tungsten filament variety and have a greater tissue penetrating power of the infra-red radiation than that of the carbon filament lamps, watt for watt. They come in various sizes: Mazda CX Lamps, 60, 250 and 500 watts; the Mazda C Lamps, 1,000 and 1,500 watts. General Electric Company, Incandescent Lamp Department, Cleveland.

Prometheus Professional Infra Red Unit.—This office unit is recommended for use when infra-red therapy is indicated. The reflector is 16 inches in diameter. The stand is chromium plated and adjustable in height from 20 inches to 78 inches. Electrical measurements on this unit indicate that it draws 1,100 watts at 9.4 amperes on a 115 volt line. The Prometheus Corporation, New York.

Benedict-Roth Metabolism Apparatus.—A closed circuit, spiro-meter type, metabolimeter of sturdy construction. Warren E. Collins, Inc., Boston.

"Standard Junior" Diathermy.—This machine generates and delivers the standard d'Arsonval current for medical and surgical diathermy practice. It is of the spark gap type. The spark gap assembly consists of ten gaps in a series. Control of gaps is so arranged that they can be opened in any order, all simultaneously or only one at a time. It operates on 110 volts, 60 cycle alternating current, and can be obtained for other voltages or frequencies. (J. A. M. A., September 14, 1935, p. 881)



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## A CONCEPT OF PSYCHIATRY\*

By  
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Psychiatry is often considered a bewildering subject. Some physicians appreciate its importance and the progress that it has made; others scoff at and belittle its efforts and achievements. I have found the average physician a fair, tolerant and cooperative ally. Most practitioners readily confess their lack of training and understanding in this field and most of them realize the need and value of psychiatric help and advice in many cases.

Among psychiatrists themselves there is much disagreement. We find here and there the intense enthusiast, usually with his particular approach to and solution for all psychiatric problems. He is frequently so absorbed in supporting his particular school of thought that he often fails to see the good in other schools. We find others who maintain their dignity and justify their indolence and incompetence only by ridiculing the efforts of those who seek to improve and increase our yet meager store of knowledge.

But on the whole, I believe the average man, practitioner, specialist or psychiatrist, sees the importance of mental medicine and sincerely desires a better understanding of the subject for himself. If he begins to read and study he soon becomes lost in a confusion of doctrines of endocrinology, focal infection, the purely stimulus and response psychology of behaviorism, or the cultural-mythological theories of the various psycho-analytic schools. He naturally finds it difficult to decide what course to follow and how to correlate all of these ideas.

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\*Read before the Tuscaloosa County Medical Society, June 3, 1935.

As for myself I have no original ideas on psychiatry. I have passed through the period of bewilderment and confusion. I cannot enthusiastically support any one school of thought or theory, but I do have a concept of psychiatry which I believe is worthy of your consideration. It is by no means original and if it had to be catalogued it would fit more closely into the psychobiological psychiatry of Dr. Adolph Meyer than into any other grouping. While I give Dr. Meyer all due credit for the basic ideas expressed herein, I would not offend him by implying his responsibility for all that I shall say or by possibly distorting any of his formulations by any inaccurate and false interpretations on my part. Hence, this concept shall go unnamed.

I believe the study of psychiatry should be a dynamic and not a static thing—and that fundamentally it should really be a consideration of the individual as a whole and not a study of separate functions, sensations and effects.

Psychiatry properly deals with man and his problems of living, and living connotes activity. Nothing is of importance, nothing really matters unless it is expressed or symbolized in some form of action. A man's thoughts, his artistry, his esthetic attributes, his skill and his wisdom are of no value unless transformed into speech, writings, music, paintings, works, buildings, and the like, all of which are dynamic symbolizations of life.

Body and mind can thus no longer be thought of as being separate and distinct, but are considered as merely different aspects of the living organism. When we think of "mind" we think of it only as one point of view or as one facet of a many-faceted surface to which we direct our attention.

Since we do not try to separate man into what is usually considered mental and what is usually considered physical, neither do we, in order to study him, lift him out of his environment, divorce him from those activities which are going on about him and to which he is closely related, nor do we cut him loose from his hereditary and constitutional background; nor ignore his hopes, plans and aspirations for the future. We study man—a complex functioning dynamic living organism, as a whole, with all of his genetic and acquired attributes and in all of his relations and settings.

The organism which we study is thus a center of reactive potentialities responding to its environment and at the same time becoming conditioned and modified because of these responses. The initial responses are determined by the organism's biologic structure and function and the modifiability by its capacity for associative change.

Herein, a problem of behavior is considered the result of the reaction of the individual as a whole to the totality of his life experiences, the specific problem having been conditioned by habit patterns of response laid down in early life.

Tennyson in simple and poetic language expressed this concept when he had Ulysses say—

*"I am a part of all that I have met."*

Thus psychiatry becomes fluid, unending, integrated, pluralistic, modifiable, a living continuous growing thing.

If that be our understanding of psychiatry and of our patient, we can never learn too much about psychiatry or about the patient. We can never ignore the good works of any particular school of psychiatric thought, nor can we become adherents of a particular school or system.

A system tends to isolate a man. It forces him to defend its own particular point of view and prevents his acceptance of and participation in the works of other schools. It narrows his perspective and stifles free thinking.

This concept of psychiatry studies the living patient, deals with the facts in the case, reads nothing into the individual that cannot be read from the individual, utilizes demonstrable actualities rather than hypo-

thetical claims and adapts itself to the needs of the patient instead of trying to fit the patient into the rigid postulates of a theory. In short, it implies the use of well trained and well informed common sense.

But while such a concept has this elasticity, this pluralistic approach, this long section practical method of study, it also necessitates a broader background of experience and information and demands a closer scrutiny of pertinent findings. While we secure information concerning a patient from every available source about every phase of the patient's life, we must eventually organize this information in such a manner as to explain in a satisfactory way the patient's present symptoms and behavior; and herein lies the difficulty. Such organization and such interpretations require of the psychiatrist a very comprehensive acquaintance with the present scope of both descriptive and interpretative psychiatry and an intimate and discriminating knowledge of the generally accepted explanations of the various symptoms and abnormal reactions of the psychotic.

One who has and, I might add, feels this concept is familiar with, appreciative of but not satisfied by the monumental works of Kraepelin on descriptive psychiatry. This concept recognizes, in addition to descriptive psychiatry, also psychopathology and psychotherapy. Merely to classify and describe the psychotic and not to understand his mental mechanisms is analogous to living in a foreign country, going about and among its people daily and not being able to understand their language. Understanding the language of the psychotic implies a knowledge of the works of a number of eminent men whose tedious analyses and explanations have helped to bring psychiatry to its present state of development. To ignore, belittle or be unfamiliar with the works of men like Adler, Janet, Freud, Jung and Bleuler in Europe; Hart, Jones and Culpin of England; and Meyer, Hoch, Jelliffe, White, McDougall, Chapman, Campbell, Brill and others of this country would be like leaving the vitamins out of a so-called adequate diet. We need not, in fact we had better not accept all that these men write about and advocate but we should at least be familiar with their most accepted and acceptable formulations.



So in our psychiatric preparation we deal with the individual, described psychologically by Dr. Meyer as "a mentally integrated whole with functions expressed as totally mentally integrated behavior." I would, in closing, ask and answer the following:

What shall I study? The patient primarily and always in his natural relations and settings. How shall I secure the necessary fundamental information? By reading. By reading what? By reading everything from all authoritative sources. But what shall I accept? Accept that which is practical, that which explains, that which unerringly and repeatedly fits satisfactorily into the picture.

### PNEUMONIA AND EMPYEMA IN CHILDREN\*

By

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Lobar pneumonia occurs more frequently in infants than was formerly suspected. About a year ago we studied one hundred charts of colored children admitted to the wards of Grady Hospital. These were consecutive admissions of children from birth to twelve years of age. Of these one hundred children in whom we had arrived at a diagnosis of pneumonia, 85 had lobar pneumonia. Again, the largest number (23 instances) of lobar pneumonia occurred before one year of age; 19 children from one to two years of age had lobar pneumonia; and 18 from two to three years of age—60 of the 85 instances occurring before three years of age.

Since these are hospital admissions, it is possible that they do not represent the occurrence of lobar pneumonia in the general population; that is, children with bronchopneumonia and bronchitis may not have sought admission to the hospital because they were not so acutely ill as the children with lobar pneumonia. I am sure that we are not impressed with the high percentage of lobar pneumonia occurring in our private patients. But, again, I am convinced that if our private patients are more care-

fully studied with the fluoroscope and the x-ray more areas of consolidation would be found than we suspect from physical examination alone.

In these children, areas of consolidation were found in the following order: Right upper lobe 30; right lower lobe 21; right middle lobe 20; left lower lobe 20; left upper lobe 8; right middle and right lower 4; right upper and right middle 3; entire right side 2.

Termination was by crisis 29 times, by lysis 40 times. Three children had an unresolved pneumonia. Eight of the 85 children died, a mortality rate of almost 10%, confirming the fact that negroes tolerate pneumonia poorly.

The duration of lobar pneumonia is shorter than bronchopneumonia, or even bronchitis. The greatest number of these children (sixteen) were ill 8 days. The next largest number (13) were ill only 7 days. A child with bronchitis, although not as acutely ill, may cough and have rales in his chest all winter long. From a practical standpoint, we wonder if it is not easier for a child to have a frank consolidation and to be acutely ill for a week than to be moderately sick for a much longer period of time.

We have not been impressed by the recurrence of lobar pneumonia, a statement sometimes seen in text-books.

Hyperleucocytosis ranged from 7,000 to 56,000. Three children had less than 8,000 white blood cells. The greatest number (15) had between 12,000 and 16,000. In 40 instances the count was between 12,000 and 28,000.

On admission, numbers of these children show a very high fever—104 or 105 degrees, occasionally even higher. Time and time again a very acutely ill child is admitted to the ward in a semicomatose condition. Within 24 to 48 hours a marked improvement is noted in the child's general condition and there is a sharp fall in the temperature, which sometimes reaches normal. We are unable to account for this other than routine nursing care as compared to the possible exposure these children have before admission to the hospital. We wonder if this phenomenon might not account for the publication of enthusiastic reports on the result of the treatment of pneumonias, particularly intravenous and

\*Read, by invitation, before the luncheon of the Alabama Pediatric Society, Mobile, April 17, 1935.

hypodermic medication. I am sure that if we treated these children this way we could show numbers of sharp declines in temperature charts within a few hours after admission.

Infants and small children are unable to cooperate during physical examination of their chests. In older children routine physical examination may be carried out as in adults. Some infants are so extremely irritable during their entire illness that a careful chest examination is almost impossible. The majority, however, are more or less passive a few hours after admission. Routine physical examination and fluoroscopic and x-ray shadows disagree many times. It is not unusual to find signs, for example, of pneumonia in the right upper lobe, and to have the x-ray demonstrate a shadow in an entirely different position to the dismay of the visiting men and the amusement of the medical students and internes.

#### MEDICAL ASPECTS OF EMPYEMA

From March 1934 to March 1935 seven colored children at the Grady Hospital had empyema, including one bilateral empyema. In selected cases, always with the surgical staff in close consultation, we have attempted aspiration of the pus with a large hypodermic syringe, replacing it with air in some instances.

One of the children (63798) was admitted with a lobar pneumonia, pneumococcic meningitis and empyema, and died within 24 hours after admission, so that little therapeutic study was made.

Of the remaining six, three made an uneventful recovery from their empyema by aspiration and air replacement. We were unable to cure the remaining three. One of the last mentioned, a 7-months old girl (69787), was admitted Jan. 31, 1935 with a right lupper lobar pneumonia. She was very ill, the temperature being septic in type until Feb. 10, 1935, when it subsided somewhat. On Feb. 8, 1935 there was a pleural effusion in the right cavity, which became a thin greenish pus by Feb. 12, 1935. Pneumococci in pure culture were demonstrated. Her chest was aspirated four times; in three instances about 50 cc. of pus, and in one intance 120 cc. of pus were obtained. At each aspiration one-half the

amount of pus removed was replaced by air. Her condition did not improve and she was recommended for surgical operation which her mother refused and took her away from the hospital.

A 2-year-old boy (68886) developed empyema following lobar pneumonia and on his fourteenth hospital day. His chest was tapped and 70 cc. of thick yellow pus obtained, after which his temperature was normal for 7 days. During the next 5 weeks he was tapped 9 times, an average of 106 cc. of pus at a time being withdrawn with only slight improvement. His rib was then resected, after which he made an uneventful recovery. He had had congenital syphilis prior to his pneumonia, his blood Wassermann being strongly positive during his acute illness. During his hospital stay he was treated with bismuth and sulpharsphenamine.

The third failure was a 2-year-old boy (69566) admitted to the contagious ward on Jan. 20, 1935 with tonsillar diphtheria and lobar pneumonia. Although his temperature was almost normal on Jan. 27, 1935, there were signs of fluid in his chest, which was found to be thin, greenish pus on Jan. 30, 1935. After this date his fever became septic in type. His chest was aspirated nine times over a period of five weeks, averaging about 85 cc. at a time, with little improvement. After this experience, his chest was drained surgically, and his recovery was uneventful.

The three recoveries of empyema with thoracentesis were as follows: No. 1—(62288), age 19 months, admitted Dec. 29, 1933, was discharged April 18, 1934. He had a right lower lobar pneumonia, developing an empyema Jan. 8, 1934, which was pneumococcic in type. Pus was withdrawn at intervals of some 5 to 7 days, depending on how rapidly it accumulated, and air placed in the chest. His temperature remained normal after Mar. 27, 1934, but because his collapsed lung did not expand as usual he was kept in the hospital until April 18, 1934.

No. 2—(68050), age 14 months, admitted Oct. 25, 1934 with a left lower lobar pneumonia, began to show signs of fluid Nov. 1, 1935, at which time her chest was aspirated of 5 cc. of pus. Again on Nov. 4, 1933 a like amount of pus was aspirated.



Two days later her temperature reached normal and she made an uneventful recovery.

The third recovery (66132) a 7-year-old boy, was admitted to the hospital July 17, 1934, sixteen days after onset of his illness, which was diagnosed pneumonia by his attending physician on July 3, 1934. After July 7 he was afebrile until July 16, 1934. He had a pleural empyema of his right chest and signs of pneumonia in his left chest. On July 19, 1934, 330 cc. of pea-green, thin, odorless pus were aspirated with a hypodermic syringe from his right chest and 330 cc. of air injected into the pleural cavity. The density on the opposite (left) side persisted, and on July 25, 1935 seventy cc. of similar pus were aspirated from that side. After ascertaining that we were dealing with a bilateral empyema no further air was injected into either side. Altogether his chest was aspirated 19 times; nine on the right side with a removal of 1,058 cc., and 10 times on the left, removing 450 cc. of pus, the total amount being 1,508 cc. Pneumococci were cultured from the pus. From the time of his admission until Aug. 14, 1934 his temperature was septic in character. On Aug. 2, 1934 he developed marked respiratory embarrassment with cyanosis, and was given oxygen and other supportive measures. From Aug. 14, 1934 until Sept. 1, 1934 his temperature was normal, then varied from 99 to 101 until Oct. 3, 1934. He was discharged Sept. 21, 1934 in good condition except for a positive tuberculin skin test (0.1 mg.).

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3. McEnery, E. T., and Brennemann, J.: Aspiration in Empyema of Children, J. A. M. A. 93: 362 (Aug. 3) 1929.

An early diagnosis of heart disease makes it possible to entirely alleviate some cases; all may be greatly benefited. An accurate diagnosis enables one to send away many with a clean bill of health, or to direct their treatment to some other condition. —Whiting, *Texas State J. Med.*, November 1935.

## MILD HYPOTHYROIDISM\*

### WITH REPORT OF CASES

By  
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Much has been written in the past on the striking symptoms of hyperthyroidism. Some have written on myxedema and cretinism. Comparatively little can be found in the literature concerning mild deficiency of the thyroid gland, known as hypothyroidism. This paper will be a discussion of the mild forms of hypothyroidism, including case reports. Ranging from the conventional normal to clinical entities of absolute thyroid deficiency there are found many varying degrees of thyroid dysfunction. Mild hypothyroidism is fairly common and is not confined, as generally believed, to areas where goiter is endemic. Many cases are overlooked and go unrecognized. Vis<sup>1</sup> of Grand Rapids found simple goiter present in from 25% to 45% of pupils in primary and high school grades. Simple goiter is in reality mild hypothyroidism. The gland having been unable to secrete sufficient thyroxin becomes hypertrophied in an effort to compensate for the deficit. Overdevelopment occurs where iodine is lacking, and may be prevented by the administration of iodine.

#### ETIOLOGY

Marine<sup>2</sup> is of the opinion that the essential cause is unknown. Hypothyroidism occasionally follows or is associated with an acute infection, particularly influenza. Any systemic or focal infection may be a contributing factor in depleting the thyroid. Poverty, unhygienic surroundings and especially incomplete or unbalanced diets are important contributing causes. Hypothyroidism occurs more frequently in females than in males. The proportion is about four to one. Puberty, pregnancy, lactation and the menopause are not infrequently hypothyroid hazards. It seems that some people operate on a very narrow margin of thy-

\*Read before the Chattahoochee Valley Medical and Surgical Association, July 9, 1935.

1. Vis, W. R.: Diagnosis of Mild Hypothyroidism, J. Michigan M. Soc., 30: 829 (Nov.) 1931.

2. Tice, Frederick, Friedenwald, Julius, and Warren, L. F., eds.: Practice of Medicine, Hagerstown, Md., W. F. Prior Co., 1932.

roid reserve, and may be easily converted into a hypothyroid state by some minor illness. Some cases develop following removal of the thyroid but these are rare. Shelton<sup>3</sup> has called attention to familial hypothyroidism. The hurry and strain of modern life probably play a minor part.

#### SYMPTOMS

The symptoms are bizarre. There is no definite group of symptoms which characterize mild hypothyroidism. The symptoms may simulate neurasthenia. Too often one turns these so-called neurotics away from his office with a little medicine, and a lot of advice, only to have them come back or go to some other doctor with the same complaint or a worse one. These patients have a very vague, poorly defined condition of ill health, which begins with a slow, insidious, and usually progressive onset.

Barlow<sup>4</sup> of London described the symptoms well when he said that "these patients resign themselves to being 'not so young as they were,' because they feel sluggish physically and mentally, their keenness for their favorite amusements whether physical or mental, as golf or bridge, is not what it was. They feel that they have to drive themselves to do things which they formerly did with zest. These patients frequently consult their doctor on account of some complaint quite unconnected with the thyroid but in whom the signs of subthyroidism may be noted."

One of the first most persistent and constant symptoms is undue fatigability. These patients may awaken in the morning feeling fine and refreshed, but easily grow tired up in the day and have no reserve on which to fall back. There is slowness of thought and movement or a listless mental state. Their usual energy and endurance are gone. Nervousness, irritability, mental depression or emotional instability are present. Another prominent symptom is constipation. This may be a severe and striking symptom in women around the meno-

pause. Brown<sup>5</sup> of Baltimore reported an interesting case of a woman who had been sent to Johns Hopkins by her physician for a resection due to intestinal obstruction. She frequently went nine days without a stool and had other symptoms of hypothyroidism. Brown advised postponing the operation three days and began giving thyroid extract, grains six, daily. This started normal bowel movements, reduced weight, and brought back mental and physical activity. At the end of three days the operation was unnecessary. Certainly this is an exceptional case but it should remind one that in intractable constipation in women from forty to fifty it is advisable to consider the possibility of an unrecognized hypothyroidism. X-ray examination of the gastro-intestinal tract which is valuable to eliminate the possibility of organic disease will often reveal the atony so characteristic and so commonly the cause of the obstinate constipation.

Another complaint may be loss of appetite. Rarely do these people eat breakfast. Cold hands and feet are other symptoms. Many of these people have great difficulty keeping warm in cold weather while those around them are very warm, and comfortable. Some give a history of gaining weight, some of losing weight, and others remaining the same weight. The thyroid gland may be slightly enlarged or no enlargement noted. Nervousness and glandular enlargement will frequently cause the physician, from a hurried superficial examination, to mistake these cases for hyperthyroidism or toxic goiter. Another symptom occasionally found is a tingling<sup>6</sup> or burning sensation over the body. A tendency to infections of the nose and throat is present in some.

Joint pains, muscular pains, puffiness about the face, headache, backache, menstrual disturbances, and early menopause in the female, dryness of skin and scalp, falling of hair, pigmentation of skin, anorexia, indigestion, gaseous eructations, acidity, low blood pressure, secondary anemia, and high pitched voice are other symp-

3. Shelton, E. K.: Familial Hypothyroidism; Clinical Study, *Endocrinology* 15: 297 (July-Aug.) 1931.

4. Barlow, H. C.: Plea for Earlier Recognition of Thyroid Deficiency, *Practitioner* 127: 648 (Dec.) 1931.

5. Brown, T. R.: Effect of Hypothyroidism on Gastric and Intestinal Function, *J. A. M. A.* 97: 511 (Aug. 22) 1931.

6. Alexander, E. L.: Hypothyroid State, *Virginia M. Monthly* 58: 107 (May) 1931.



toms sometimes seen. Sterility<sup>7</sup> has been observed in both males and females. Breckenridge<sup>8</sup> feels that hypothyroidism is probably responsible for some cases of abortion, miscarriage and premature labor.

#### DIAGNOSIS

Keeping in mind the possibility of hypothyroidism is worth a good deal when these patients present themselves for diagnosis. Being familiar with the various above mentioned symptoms is not only helpful but very necessary. A thorough physical examination may be of considerable, little, or no value. The essential physical findings, when present, are: dry scalp, hair and skin, slight puffiness of lids, a normal or slightly enlarged thyroid, low blood pressure, apathetic appearance, mild secondary anemia, cold extremities and subnormal temperature. The pulse rate varies<sup>9</sup> from slow to fairly rapid and is not diagnostic.

The basal metabolism reading is always below normal, ranging from about minus five to minus twenty to thirty. Fluctuations in the basal metabolism readings may occur in the same individual due to nervousness, irregular breathings or an improper preparation of the patient.

Harrell<sup>10</sup> says that Warfield is of the opinion that patients with a minus eight metabolism should be given thyroid. He also states that Bridges believes it should be given in the presence of a minus five metabolism with symptoms. Hoge<sup>9</sup> and Harrell<sup>10</sup> feel that basal metabolism readings of minus five to ten are more significant than readings of plus ten to fifteen. A high blood cholesterol<sup>7</sup> is present in hypothyroidism. This may be of distinct value in children too young for a satisfactory basal metabolism test, but I have had no experience with it.

#### DIFFERENTIAL DIAGNOSIS

Such diseases as pernicious anemia, hyperthyroidism, occult tuberculosis, diabetes mellitus, neurasthenia, neuritis, nephritis,

7. Sanders, L. C.: Incipient Hypothyroidism, Mississippi Doctor, (Feb.) 1935.

8. Breckenridge, S. D.: Some Practical Aspects of Hypothyroidism, Am. J. Obst. & Gynec. 23: 871 (June) 1932.

9. Hoge, A. H.: Mild Hypothyroid, West Virginia M. J. 26: 712 (Dec.) 1930.

10. Harrell, C. L.: Thyroid Deficiency; Clinical Study, Virginia M. Monthly 57: 71 (May) 1930.

arthritis, gastric ulcer, gallbladder disease and others are apt to be confused with mild hypothyroidism. A careful history and a thorough, properly evaluated physical examination will reveal signs and symptoms peculiar to each of these diseases. None of the above diseases shows a low basal metabolism reading. Time does not permit me to go into details of these diseases as a familiarity with each will easily rule it out.

#### TREATMENT

The writer knows of no disease which gives a more grateful and appreciative patient than hypothyroidism when properly treated. The proper treatment is the giving of the desiccated thyroid extract by mouth. It is well to begin with about one grain daily the first few days and gradually increase it. The size of the dose should be regulated by the symptoms and the basal metabolism readings. Occasionally a patient may not tolerate the drug well. The usual unpleasant symptoms are nervousness, restlessness, irritation of the skin, rapid pulse and, less frequently, mild delirium. One should keep in mind that some patients will have a minus twenty basal reading with very few symptoms and others will have numerous symptoms with a reading of minus six or eight.

#### CASE REPORTS

Case 1—C. B. L., white, male, single, age 22, ministerial student. Came to office in July, 1934. For the past three months has had loss of energy, difficulty in remembering things well, eyestrain, recent loss of appetite, headache and nervousness. Sleeps well. Bowels regular. Smoked until one year ago, temperate in all his habits. Urinates twelve to fifteen times during day and has to get up once during night. No burning or discomfort. Examination: Height 5 feet 9½ inches, weight 134 pounds. Blood pressure 120/76, pulse 75, temperature normal. The general physical examination is negative. Laboratory findings: The urine is normal on two complete analyses. Red cell count 5,260,000; hemoglobin 84% (Sahli), Wassermann and Kahn negative. Stomach analysis—Free HCl 30, total acid 41. Basal metabolism rate minus fifteen. Diagnosis: Mild hypothyroidism. Treatment and progress: Put on desiccated thyroid extract, one grain daily; advised stopping school and Sunday school activities temporarily. Came by the office October, 1934 saying he had tried to leave off the thyroid, but every time he did he began feeling weak and peopless with dull aching in temporal regions. Notices loss of libido when not taking thyroid.

Basal metabolism reading February 12, 1935 was normal. Patient put on grains two of desiccated

ed thyroid daily. Pulse 80 and weight 132. Has felt well and energetic since and able to do work on a farm where he has been living with relatives for four months, according to his father.

*Case 2*—K. H. D., white, male, age 34, married, occupation accountant. Came to office June 6, 1934. History of "acid stomach," extreme nervousness, difficulty in swallowing and choking sensation. Joint pains in hips, left ankle and fingers. Weighs as much as he ever weighed. Feels fairly well first part of day, but before day is over gets very groggy. Pain in right upper abdomen but no relation to taking of food. Past history: Typhoid at fifteen, influenza 1918, sick ten days. Tonsils and appendix out several years. Examination: Weight 115, height 5 feet 7 inches, temperature normal, blood pressure 100/60, pulse 66. Basal metabolism reading minus eighteen. A complete physical examination was otherwise negative. Diagnosis: Mild hypothyroidism. Treatment and progress: Patient started on two grains thyroid extract daily. Three weeks later digestion was better, had more energy, gained three pounds. Pulse 66. Basal metabolism reading was minus two on July 31, 1934. Blood pressure 114/60, pulse 72, weight 120½ pounds. Thyroid continued. General condition good when last seen on November 2, 1934. Weight 122 (a gain of 7 pounds). Digestion, nervousness and apathy gone. A slight muscular soreness at times.

*Case 3*—Mrs. M. E. Q., white, age 39, married, lawyer's private secretary. Referred May 16, 1935 by Dr. W. W. Locke, Birmingham, because of nervousness. Complaints of being tired and does not have any energy. Has itching and feeling of ants crawling over body at times for past several months. Constipated, requiring milk of magnesia daily for about six months. Appetite poor. Sleeps well at night. Feels nervous during the day but no special pain. Frequent infections of the upper respiratory tract. Had noticed a difference in her voice, and friends remarked to her that her voice had changed lately. Married 15 years, no children, one miscarriage in 1934. Physical examination: Weight 155 pounds, height 66 inches, temperature normal. Slight puffiness of upper lids. Scalp dry. Thyroid not enlarged. Hands are normal. Skin is apparently normal. Blood pressure 141/80, pulse 90. Heart no murmur, irregularity, or enlargement. The physical examination is otherwise negative. Laboratory findings: Urine negative. Red cell count 4,720,000, hemoglobin 90 (Sahl), Wassermann and Kahn negative. Basal metabolism reading minus seventeen. Diagnosis: Mild hypothyroidism. Treatment and progress: Started on desiccated thyroid extract, grain one daily for four days, grain one twice daily for four days and grain one three times daily for four days. On May 28th she felt more energetic, and no itching and burning on body for two days. Stated she thought her voice was better. Appetite improved. Weight 159, pulse 88. Desiccated thyroid extract grains four given until June 28, 1935. Basal metabolism reading on July 2 was zero. Blood pressure 126/76, pulse 78, weight 153. Patient stated she was enjoying her food now and feeling fine. Put on thy-

roid grains two daily. Bowels are regular now without any laxative past month.

This paper has been written as a plea for earlier recognition of mild hypothyroidism. My intention has been to impress upon you more fully the significance of mild cases of thyroid deficiency. In making a diagnostic study of any chronic disease it is well to keep in mind the possibility of this condition, and make a basal metabolism reading. By so doing many heretofore unrecognized cases will be found and treated.

## THE CLINICAL IMPORTANCE OF LOW BLOOD CALCIUM\*

WITH REPORT OF CASES

JOHN W. BOGGESS, JR., M. D.  
Guntersville, Alabama

When the calcium content of the blood is sufficiently lowered there exists a condition known as tetany. "Tetany is a clinical syndrome occurring after parathyroidectomy or spontaneously and characterized by gradually increasing hypersensitiveness of the nervous system (motor, sensory, and autonomic) and in manifest cases by a painful tonic spasm of certain groups of muscles or even of the entire musculature." The types of tetany, as usually classified, are:

1. Postoperative
2. Infantile
3. Maternity
4. Gastric tetany
5. Idiopathic (occupational)
6. Tetany in infectious diseases and intoxications.

Without entering into the etiology of disturbed calcium metabolism, about which we know very little, I intend to discuss and bring to the attention of the general practitioner a few of the commoner symptoms which are frequently encountered that are due to lowered calcium content of the blood and which may be relieved by the correction of this deficiency.

There is, ordinarily, little difficulty in recognizing a manifest case of tetany, either in children or adults, by the objective symptoms alone. However, it must be remembered that symptoms caused by the lowered calcium content of the blood may vary from

\*Read before the Marshall County Medical Society, Albertville, July 10, 1935.



slight nervousness and mild contractions of any muscle or groups of muscles to generalized convulsions with loss of consciousness. Keeping in mind atypical symptoms and varying degrees of any symptom or group of symptoms from the typical textbook picture is often the means of locating the cause and relieving the patient.

There is still a great tendency among general practitioners to hurriedly check over a patient who comes complaining with indefinite symptoms and make a diagnosis of neurosis when no outstanding abnormality is found. Undoubtedly there are cases of neurosis, but it hardly seems possible that a normal person should be neurotic, and certainly after neurosis develops the person is not normal. It is my opinion that as we learn more about the functions of the various organs of the body, especially the ductless glands, diagnoses of neurosis will be rare. I was once told by an outstanding practitioner that any time I was called to see a woman patient and found her lying rigid on the bed with fingers contracted toward the palm of the hand and apparently unconscious not to hesitate to give her a dose of apomorphine and go home. Unfortunately, I used this advice on several occasions. In recalling these cases I remember that the majority occurred in lactating mothers and undoubtedly I was dealing with maternity tetany and not hysteria. Apparently none of them died.

Some of the commoner symptoms present when low blood calcium exists are:

1. Sensitivity to cold and heat
2. Irritability
3. Indefinite colicky pains in abdomen which may or may not be localized
4. Projectile vomiting—(sometimes this symptom is due to the spasm of the pylorus caused by low blood calcium, and at other times the calcium deficiency is due to the continuous vomiting caused by some other disorder)
5. Constipation
6. Profuse sweating of the head and extremities
7. Faulty dentition
8. Headache—(pain usually localizes or begins in nape of neck)
9. "Weak or nervous ankle"—(this symptom has been fairly constant in my se-

ries of cases. The patient complains of "weak ankle" or "nervous ankle" and usually crosses his legs, grasps the ankle with his hand and begins a slow or rapid rotary motion of the foot while talking. Women have more of a tendency to cross the legs and rapidly shake their leg or slowly rotate the foot without grasping the ankle).

A few recent cases will demonstrate some variety of symptoms commonly encountered in routine practice.

#### CASE REPORTS

*Case 1*—White, female, age 7. Chief complaint: Vomiting after ingestion of either food or water. Present illness: The child's father states that since the child has been old enough to talk that she has complained of being cold when slight changes in the weather occurred, while other children appeared comfortable. She has always required much heavier clothing than any of the other children in the family. Patient is fretful at play and cries often when there is no apparent cause. She has had indefinite colicky pains since birth with profuse sweating of head and extremities. About two years ago the child began vomiting after ingestion of either food or water, but did not complain of nausea before or after vomiting. The vomiting has been projectile in type and often occurs at the table without warning. She has been treated by several physicians without improvement, practically always vomiting the medicine prescribed.

Physical Examination: Essentially negative except the head and extremities were bathed in moist perspiration and there were several completely decayed teeth. It was not convenient to make a blood calcium estimation at the time the child was first seen and the father was asked to return her the following day. However, calcium was prescribed after preliminary examination. She was not returned for one week. On returning, the father stated that the child continued vomiting, but less frequently, for three days after starting treatment but had not vomited since the third day. He also stated that she was less fretful, more playful and less sensitive to cold. The blood calcium at this time was found to be 8 mgms. per 100 cc. Calcium therapy was continued and after several weeks there has been no vomiting, no abdominal distress, no sweating of extremities, and the father states that the child's disposition has changed entirely.

*Case 2*—White, female, age 10. Chief complaint: Headache, extreme nervousness, convulsions, pain in legs and general run-down condition. Present illness: The father states that the child has been nervous and irritable since birth. While at school at the age of six the child had her first convulsion; since then she has had three or four per week. They are tonic, last approximately ten minutes and the patient emits a frothy saliva and chews tongue during an attack. There has always been profuse sweating of head and extremities since birth. Last convulsion with loss of consciousness occurred in February 1935. However, patient has been taking one and one-half grains of luminal daily since last

attack and on numerous occasions she has had severe muscular twitchings and was believed to be on verge of having a convulsion.

**Physical Examination:** Height 53 inches; weight 48 pounds; temperature 99.6 F.; teeth spaced with numerous cavities; thyroid, rt. lobe enlarged, spongy, freely movable; heart rate 120 per minute, no murmurs, slight thrill over mitral area transmitted toward axilla; reflexes—knees equal, exaggerated, abdominal slightly exaggerated.

**Laboratory:** Urinalysis—specific gravity 1.030; reaction, acid; albumen, neg.; sugar, trace indican, 3-plus diacetic acid, neg. acetone, neg. microscopic, 3-plus mucus, 1-plus cylindroids, 1-plus amorphous deposits, 100 pus cells per low power field, 1-plus pus and hyaline casts. Blood: hemoglobin 78%; white blood cells 8,850; red blood cells 3,264,000; polymorphonuclear leucocytes 78%; small lymphocytes 21%; large lymphocytes 1%; malaria, neg. Blood chemistry: Sugar 79.8 mgms. per 100 cc.; non-protein nitrogen 31.6 mgms. per 100 cc.; calcium 7.0 mgms. per 100 cc. Stool: Puffy mass, clay colored, fecal odor, 1-plus food remnants, 3-plus mucus, microscopic neg.

The patient was put on a bland, high calcium diet for the gastroenteritis, a urinary antiseptic and calcium. The luminal was discontinued. The digestive and kidney disorders have cleared up under treatment. The irritability and nervousness began improving after second day of treatment and the mother reported the child singing and playing with her doll three days after treatment was started, something she had not done since first convulsion. Increase in weight and general improvement without convulsions have been continuous to date, several weeks after treatment was begun. The mother states that she now plays with other children normally, sleeps well and is less nervous than at any time since birth.

**Case 3—**White female, age 32. Chief complaint: Frequent and painful urination. Pain in abdomen. Present illness: Frequent and painful urination began several days ago and has lasted to present without improvement. Patient states that she has had frequent attacks of cystitis for the past several years and that they are usually accompanied by pain in right iliac region which generally begins as generalized abdominal pain and localizes in right side but sometimes localizes in left side or disappears without localizing. Attacks usually last about ten days and there are usually nausea and vomiting associated with excessive gas formation.

**Physical Examination:** Essentially negative except for cervical erosion with whitish mucus discharge.

**Laboratory:** Urinalysis—specific gravity 1.028; microscopic, 3-plus squamous epithelial cells, 3-plus mucus threads, 1-plus phosphate crystals, otherwise negative. Blood: hemoglobin 97%; white blood cells 5,650; red blood cells 4,224,000; polymorphonuclear leucocytes 67%, small lymphocytes 33%; sugar, 108.6 mgms. per 100 cc.; non-protein nitrogen 30.0 mgms. per 100 cc.; calcium 8.0 mgms. per 100 cc. Stool and stomach analysis normal.

Examination did not reveal any inflammatory condition of either abdominal viscera or urinary

tract. Calcium therapy relieved the bladder condition as well as the abdominal distress and neither has returned after several months.

**Case 4—**White female, age 38. Chief complaint: Nervousness, headache, frequent and painful urination. Present illness: Patient states that for the past 18 years she has had an almost continuous headache, often waking up during the night with an attack. Large doses of pain-relieving drugs are required and often morphine for relief. The pain begins as a "drawing" in nape of neck and gradually extends over entire head. Attacks of cystitis and vomiting closely associated with the more severe attacks of headache.

**Physical Examination:** Essentially negative except B. P. 98/70 and slight vaginitis with whitish mucus discharge.

**Laboratory:** Urinalysis essentially negative except 3-plus epithelial cells. Blood—hemoglobin, white blood cells, red blood cells, differential, normal; negative for malaria; sugar 117 mgms. per 100 cc.; non-protein nitrogen 35.3 mgms. per 100 cc.; blood calcium 7.0 mgms. per 100 cc.

Calcium was administered and after the second day the patient was entirely free of headache, the first time in several years and has remained practically free for several months. While there has been sickness in the family and the patient has been ill from other causes since treatment was started, and numerous other things have happened that would ordinarily have caused a severe attack, she has been free of any of her former symptoms, including nervousness.

**Case 5—**White female, age 21. Chief complaint: Extreme weakness, nervousness, headache and irritability. Present illness: Patient states that she has had frequent attacks of headache, has felt sluggish, weak, nervous and has not felt like doing any of her work since the birth of her child, thirteen months ago. She sleeps well but has been extremely irritable since present illness began.

**Physical Examination:** Negative except 20 pounds underweight, chronic tonsillitis, thyroid slightly enlarged without nodules and multiple dental caries. There is a large cavity at the margin of the gums in practically every tooth; they have been filled but are discolored and detract from her looks.

**Laboratory:** Urinalysis, negative. Blood: hemoglobin 86%; white blood cells 8,600; red blood cells 3,606,000; polymorphonuclear leucocytes 69%; small lymphocytes 29%; eosinophils 1%; basophils 2%; malaria, positive; sugar 90.9 mgms. per 100 cc.; non-protein nitrogen 30.0 mgms. per 100 cc.; calcium 3.4 mgms. per 100 cc.; Van den Bergh negative; basal metabolism plus 4%; stomach and stool normal.

Treatment was outlined for the malaria and calcium deficiency with marked improvement after second day. Patient has gained eighteen pounds in weight, is not nervous or irritable, has had no headache and is attending her child and doing her work.

Another type of patient often encountered suffering from calcium deficiency are



those who have had a protracted case of diarrhea from any cause. I have known these symptoms to vary from slight muscular twitching to hard convulsions with loss of consciousness and to be promptly relieved by the administration of calcium. Recently I was called in consultation to see two brothers, aged 10 and 17 years, who had had an infectious diarrhea of two weeks' standing with severe abdominal spasm that was not relieved by large doses of opiates and they had been unable to sleep for several days. Calcium was given and both relaxed and slept well the first night after administration. Both made rapid and complete recovery.

It has been found (Howland and Marriott) that in practically every case of tetany in infants that the calcium content of the blood serum was below 7.0 mgms. per 100 cc. (average 5.6 mgms.), whereas normal infants, rachitic infants and infants suffering from other types of convulsions always had 8.0 mgms. or over (average 10.0 mgms.). However, it must be remembered that symptoms due to calcium deficiency are often produced without definite signs of tetany and many of my patients have been relieved of symptoms of long standing by the administration of calcium with the serum content as high as 8.0 mgms. per 100 cc.

While all cases of nervousness, abdominal pain, convulsions and other symptoms common in calcium deficiency are not due to such deficiency, I believe that the calcium estimation of the blood should be made in all routine examinations. This deficiency has been found to exist in approximately one patient in twenty examined routinely by me. It must be remembered that the calcium content of the plasma falls very rapidly after stopping the salt and that the normal level must be maintained if the patient is to remain symptom free. It must also be remembered that the calcium content of the blood is not always raised by the administration of the salt; many cases require parathyroid therapy when this gland is found to be at fault.

Many patients suffering from calcium deficiency have been relieved by the practitioner without his knowing why. I am sure that most all of us at one time or another have used the old favorite prescrip-

tion consisting of equal parts of calcium lactate, magnesium oxide and sodium bicarbonate in cases of "indigestion and colic." When this prescription is found to be a repeater, calcium deficiency should be suspected. The patient often states, "I have had stomach trouble for several years and am unable to do without the prescription Dr. Blank gave me years ago." On checking the contents of these favorite prescriptions it is usually found that they contain calcium in some form. I have examined many of these cases and found them to have hypochlorhydria and even achylia. Naturally, they did better on straight calcium therapy minus the alkalies.

While I will admit that to make an estimation of the calcium content of the blood is not exactly a simple procedure, and few clinical laboratories make such estimations, in my opinion it is one of the most important routine procedures that can be carried on in any laboratory. It must be remembered that the best time to take blood for calcium determination is when the symptoms are most pronounced in the patient. When disturbed calcium metabolism exists there is great variation in the content of the plasma in the same individual at different times. Therefore, should certain symptoms be due to a deficiency, there is little likelihood that a lowered content would be found without the symptoms being present at the time the blood is taken. I have proven in my series of cases that have been relieved of symptoms by calcium therapy that the calcium content of the blood varies with the severity of the symptoms. I also think that this variation accounts for some of my high readings (taking blood with symptoms mild or lacking). Therefore, I always consider that a deficiency exists when the content is as low as 8.0 mgms. per 100 cc.

To discuss other cases on file where calcium deficiency has been found to be the sole cause producing the symptoms complained of would be more or less a repetition of those already discussed. However, as already mentioned, there are many variations of the symptoms discussed and let me say in closing that the hardest part in the diagnosis of calcium deficiency "is to suspect it" and once it is suspected and determinations made, it is my opinion that fewer diagnoses of neurosis will be made.

# THE JOURNAL

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### TREATMENT OF MIGRAINE WITH ERGOTAMINE TARTRATE

Ergotamine tartrate was first used in the treatment of migraine in 1926 and, during the past three or four years, its use has become widespread. Lennox and von Storch<sup>1</sup> have reported their experience with this drug, which they have administered to 120 patients over a period of three years. "The patients in this series all suffered from severe periodic headaches. In addition, they had one or more of the following satellite symptoms: Hemispheres, nausea or vomiting, visual disturbances, vasomotor disturbance and malaise. They failed to obtain relief from other drugs or treatment, and each gave a history of migraine in other members of the family. Twenty-three of the patients were males and ninety-seven females. . . ."

"Of the whole group of 120 patients, 89 per cent experienced abrupt and complete cessation of the headache with the initial use of ergotamine. The cases in which the treatment was given were chronic, and other forms of therapy had not helped. No other drug or treatment which had been reported in the literature has been effective in such a high proportion of patients with migraine. The results, therefore, are dramatic and conclusive. In ergotamine tartrate, the physician possesses a nonsedative drug which almost invariably aborts even the worst of migraine headaches."

"Furthermore, the beneficial action of

1. Lennox, William G., and von Storch, Theodore J. C.: Experience with Ergotamine Tartrate in 120 Patients with Migraine, J. A. M. A. 105: 169 (July 20) 1935.

ergotamine seems to be specific, or nearly so, for headaches of the migraine type." The authors state that, in general, the patients responded to subsequent injections as they did to the initial dose. A few failed to obtain any relief or were actually made worse by the drug. And, on the whole, headaches aborted by ergotamine tend to recur at somewhat shorter intervals than formerly. Also "after obtaining relief from headaches by the use of ergotamine, most patients experience a sense of fatigue and lassitude, this being an accentuation of the sensation experienced after spontaneous recovery." Nausea and vomiting also occurred in a large number of cases. The writers report that they have encountered no serious or permanent ill effects, though they warn against the use of this drug in patients with arterial disease and, of course, in pregnancy. "Excessive and long-continued use carries the danger of ergotism." Intramuscular injection appears to be the most favorable method of administration. When given by mouth it is relatively ineffective. The mechanism by which relief is obtained is not known.

The vast majority of practitioners have struggled long and, for the most part, unsuccessfully, with their migrainous patients. The physicians have eagerly read of many newly-announced cures and treatments for this dreadful condition, all of which have proved to be useless. And the unhappy victims have drifted from doctor to doctor, frequently ending up in the hands of the chiropractors and other quacks or, more rarely, becoming addicted to morphine. Therefore, any drug which shows any promise of alleviating this distressing state of affairs is worthy of a thorough trial. And ergotamine tartrate has well demonstrated that, despite some unpleasant features, it is the best treatment for most sufferers from migraine. It is to be hoped that its beneficial effects will be borne out by further and more widespread use.

Constituting the concluding pages of this issue of the Journal under Appendix, the several general laws relating to public health, passed at the regular session of 1935, are published. They should prove of interest to the entire profession and particularly so to the County Health Officers.



## DEPARTMENT OF PUBLIC HEALTH

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### *In Memoriam*

While on his vacation, Harry G. Menke, Assistant Sanitary Engineer of the State Department of Health, died at Carthage, Missouri, on October 28, 1935. His death was due to appendicitis, operation for which could not be performed because of his weakened physical condition.

Mr. Menke was a native of Quincy, Illinois. He obtained his degree in Municipal and Sanitary Engineering at the University of Illinois in 1915. From June 1915 to August 1916 he served as Junior Highway Engineer with the Illinois State Highway Department. He then joined the field staff of the Norwood Engineering Company, of Florence, Mass., engaged in municipal engineering construction activities. He entered the military service, as Second Lieutenant of Engineers, in January, 1918, and saw service overseas until the spring of 1919. After his discharge from the A. E. F., he was employed as Office and Field Engineer by the firm of Dickinson and Watkins, Little Rock, Arkansas, engaged in municipal engineering activities. In July 1921, he became a member of the engineering staff of the City of Memphis, Tennessee, and served in that capacity until February 15, 1923, when he accepted the position of Assistant Sanitary Engineer of the Alabama State Department of Health.

Mr. Menke's duties with the State Department of Health included the checking

of plans and specifications of projected water purification and sewage treatment plants, the supervision of the operation of the approximately 250 public water purification plants and the sewage treatment plants in the State, and "trouble shooting" in these fields. During the twelve years he was in Alabama a marked improvement in the quality of public water supplies was effected, as a result of the thorough organization of the field work, and close cooperation between the State Laboratories and the Bureau of Sanitation. Mr. Menke may be credited with the fact that there were no epidemics of water-borne disease during his tenure of office.

He was recognized by all with whom he came in contact as possessing a broad knowledge of his subject, and as being endowed with practical, good sense. As a representative of the Department, he was courteous but firm. He was popular among his associates for his charm and comradeship, and will be missed, both professionally and socially.

Mr. Menke was a Lambda Chi, a thirty-second degree Mason, a Shriner, and for the past several years a vestryman of the Episcopal Church of the Ascension in Montgomery. He is survived by his wife, Mrs. Edna Bolle Menke, his father, two sisters, and four brothers. Burial was at Carthage, Missouri.

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### BUREAU OF LABORATORIES

James G. McAlpine, Ph.D., Director

#### BIOLOGIC PRODUCTS

In the September 1934 issue of this Journal mention was made of the various biologics prepared by the Bureau of Laboratories of the State Department of Health. Also a brief description of the methods of distribution was given. However, since there appears to be some misunderstanding con-

cerning this subject, it has been thought best to explain it again at this time.

It may be stated as a general principle that all biologics which are manufactured by the Bureau of Laboratories are distributed free to any licensed physician in the State. Moreover, physicians can obtain these products by direct application to the Vaccine Division at Montgomery, and it is not essential for them to have the County Health Officer act as their intermediaries.

Sometimes, of course, time can be saved by obtaining biologics from the county seat or local depository, but more often an unnecessary delay is incurred when the County Health Officer is contacted first. This is true when the product desired is not on hand in those places. Orders by wire, telephone or letter will be filled and shipped the same day that they are received. *However, it should be emphasized here that no collect telegrams or telephone calls will be accepted; these must be paid at the source.* The State Department of Health has no funds available for this purpose.

The biologics manufactured and distributed free are as follows:

1. *Typhoid Vaccine.* This may be obtained in 10 cc. or 50 cc. ampoules.

It contains only *B. typhosus*, the paratyphoids A and B being omitted.

2. *Rabies Vaccine.* These are Semple treatments, each package containing 14 doses. Extra vials to be used for replacement of those broken, or in cases of severe lacerations where more injections are indicated, can be obtained on application. The questionnaire enclosed should be filled out and returned. Especially is this true for indigent patients; otherwise, the indigent fee cannot be paid. Since rabies vaccine is outdated in six months, the expiration date should always be noted, because occasionally vaccine which has been outdated is distributed by depositories.

3. *Alum Precipitated Toxoid.* This is packaged in 2 cc. and 10 cc. ampoules. None is put up in 50 cc. vials because this is in violation of the regulations of the U. S. Public Health Service. One dose only of 1 cc. is given.

4. *Schick Toxin.* This is used for testing susceptibility to diphtheria and is supplied in 2 cc. ampoules. It is standardized so that each 0.1 cc. contains 1/50 M. L. D. Each vial has sufficient material for making 20 tests.

5. *Old Tuberculin.* It is supplied in 1 cc. amounts with the necessary diluents. This product is relatively stable in concentrated form but when diluted should not be used after two weeks. Each vial contains 1 cc. or enough to make up 10 complete sets of dilutions. Therefore, the necessary diluents should be ordered until all the concen-

trated tuberculin is utilized. Inasmuch as old tuberculin is expensive, none of the concentrated material should be discarded.

6. *Silver Nitrate Ampoules.* These can be obtained in boxes containing four ampoules each.

7. *Diphtheria Antitoxin.* The State Department of Health supplies this biologic free for strictly indigent cases only. A stock of 10,000 and 20,000 unit packages is maintained by each County Health Officer and certain authorized depositories.

As a rule, the branch laboratories do not function as depositories for biologics. However, to make rabies vaccine available for immediate use in emergencies, the laboratories at Birmingham, Decatur and Mobile are stocked with a number of treatments. The Health Officers at Gadsden and Gunterville also carry rabies vaccine, but it is not considered advisable to stock rabies treatments routinely at other points. There are several reasons for this. First, since every treatment must be accounted for, the bookkeeping system becomes more complicated; and, secondly, treatments are liable to become outdated unless very careful checks are made periodically.

Birmingham carries typhoid vaccine and diphtheria toxoid for shipment to the immediate vicinity, but, as a rule, these products together with Schick toxin, silver nitrate ampoules and tuberculin are distributed from Montgomery. All biologics are shipped by parcel post whenever possible, but larger packages go express collect. As stated before all shipments are made immediately upon receipt of the order, but collect telephone calls and telegrams will not be accepted.

## BUREAU OF PREVENTABLE DISEASE CONTROL

D. G. Gill, M. D., Director

### DIPHTHERIA AND THE SCHICK TEST

During the first ten months of 1935 there was a total of 864 cases of diphtheria reported in Alabama as compared to 1218 during the same period of last year and as compared to an average of 1,255 for the five years 1930-34. This reduction in incidence is very gratifying to all those who have been promoting and engaging in diphtheria immunization programs and is prob-



ably the result of increased interest in protection measures.

Nearly all the cases of diphtheria occur among children who have never been given toxoid or toxin-antitoxin, but occasionally a physician will report a clinical case in a child who has been supposedly protected. In nearly all instances no Schick test has been done, however, to determine whether or not the child really developed an immunity. Excluding these there are still a few reported cases in children who have had negative Schick tests. Some of these have undoubtedly reverted to a Schick-positive state, while some are not diphtheria but are children with other throat conditions who are temporary carriers of diphtheria organisms. The occurrence of clinical diphtheria in a Schick-negative child is a very rare occurrence.

Park<sup>1</sup> stated that he has never seen an undoubted case of diphtheria in an individual having an undoubted Schick-negative reaction, but other observers have reported otherwise. Underwood<sup>2</sup> reports the occurrence of eight cases of diphtheria in Leeds during 1933 and 1934 in children who were supposedly immune and in whom negative Schick tests were obtained early in the illness. These eight cases met the criteria established by him. (1) There was no doubt concerning the clinical diagnosis. (2) A real toxigenic strain of *C. diphtheria* was isolated from the throat. (3) The toxin used for Schick testing was beyond all suspicion. The strain of *C. diphtheria* isolated in all cases was the "gravis" strain which is always virulent and the author holds that the presence of this virulent organism was responsible for the breakdown of immunity. Two of these children were naturally immune and had received no stimulating inoculations.

The Schick test is an arbitrary test in that the injection of 0.1 cc (containing 1/50 of an M. L. D.) of toxin was supposed to produce no reaction when there was 1/30 unit or more of antitoxin per cc. of blood serum. Children have been observed, how-

ever, with a negative Schick test and with much less than that amount of antitoxin in their blood. Any persons with 1/20-1/30 unit of antitoxin in the blood will be Schick negative, but one cannot estimate the antitoxin content of the blood from the Schick test. This test is in reality a measure of tissue immunity rather than blood immunity.

Many workers in recent years have discarded the Schick test in favor of titrations of the blood serum as a more accurate measurement. This is not applicable in routine work, so, if we realize the limitations of the Schick test, it is still the best criterion to use. The interest aroused by the occasional failure of the test indicates that such a failure is rare.

#### WASSERMANN REACTION IN PATIENTS WITH EARLY SYPHILIS UNDER TREATMENT

The question has been raised whether a patient with early syphilis who shows a negative Wassermann reaction at the end of six months' treatment period should or should not continue treatment. Unquestionably the patient should continue treatment until at least twenty neosalvarsan injections, but preferably forty neosalvarsan injections, accompanied by an equal number of bismuth injections, have been given. The serologic reaction tests, after the sixth month of treatment, should only be made as a guide to the physician of the effectiveness of the treatment. A negative Wassermann at this time or later means that the patient is responding well to treatment and has an excellent chance of overcoming the spirochetal invasion. A positive Wassermann, or one that is vacillating, shows that the patient is not responding well to the method of treatment and greater intensity or a change of method would offer the patient a better chance of surmounting the syphilitic infection.

It would be much better not to make any serologic tests in patients who have received less than the minimum amount of treatment if a negative Wassermann inculcates in the mind of the physician the idea that the patient is "cured" of the luetic infection. But repeated negative Wassermanns after adequate treating are hopeful signs of spirochetal annihilation.

1. Park, W. H.: Active Immunization against Diphtheria, *Am. J. Dis. Child.* 32: 709-717 (Nov.) 1926.

2. Underwood, E. A.: Schick Immunity and Diphtheria Infection, *Lancet* 1, 7: 364 (Feb. 16) 1935.

## BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

SOME OF THE ACTIVITIES OF THE  
BUREAU

The Bureau of Hygiene and Nursing now consists of three divisions: (1) Hygiene; (2) Public Health Nursing; and (3) Midwife Control.

The functions of the Division of Public Health Nursing include: (1) Selection of nurse personnel. The chief of the division makes contact with all applicants for positions as public health nurses. She selects those who are qualified and recommends suitable ones to county health officers for consideration when vacancies occur. (2) Advisory service. The advisory nurses confer with the personnel of the county health units concerning technique and assist in the betterment of planned programs through interchange of ideas. The division also aids in the formulation of a plan for continuing staff education, particularly for the nurses.

Every angle of the public health program is touched by the nurse. Her duties take her into most intimate contact with the lives of the people. She wins their confidence and interprets to them the purposes of the health unit. Her services are utilized in promoting the activities of every division in public health. The nurse, perhaps, plays a greater part in the public health program than any other member of the staff. Her services are practically indispensable. Although her duties touch every phase of public health activity there are some duties that come specifically within her field.

We are specifying some of these to illustrate the scope of her work.

*Maternity Service:* The public health nurse attempts to get in touch with prospective mothers as early in pregnancy as possible. She instructs the expectant mother in maternal hygiene and emphasizes the importance of medical examinations with continued medical and nursing care during the prenatal, delivery and post-natal periods; followed by a six weeks' post-partum medical examination for mother and baby. Each nurse may be expected to have about fifteen to twenty prenatal cases at all times.

*Infant Hygiene:* The public health nurse advises the mother in the hygienic manage-

ment of the baby. She instructs the mother in carrying out the physician's orders in relation to feeding the baby. She carries out her work without usurping any authority of the physician or suggesting procedures that are not specified by him. She aids in securing smallpox vaccination and immunization to diphtheria during the baby's first year. She assists also in securing more complete registration of births.

*Preschool Hygiene:* The nurse continues to render the same type of service to the child from one to six years as that which was rendered to the infant, except that the older child is seen less often and the problems are somewhat different. Medical supervision is sought in order that any defects that may develop may be corrected as early as possible. The mother is taught the principles of child hygiene and the daily routine of healthful living habits.

*School Hygiene:* The public health nurse works with the health officer, the teacher and the parents for the betterment of the health of the school child. She aids the health officer in making physical examinations. Her duty with the parent and teacher is to interpret the findings of the health officer and secure the correction of physical defects found. She aids in the control of communicable diseases in the school by the early recognition of the symptoms of contagious diseases and by securing immunizations.

*Communicable Disease Control:* Here the nurse assists in the prevention of the spread of disease through instruction in isolation, quarantine and in immunization. The only bedside nursing she does is for demonstration purposes, to teach the responsible member of the household how to care for the patient, dispose of the excretions and know the importance of convalescent care in the prevention of sequelae. Sometimes she placards the house. She aids the epidemiologist in determining the source of infection by securing information for complete reporting of communicable diseases.

The nurse keeps an active file of all cases, suspects and contacts of tuberculosis and visits each of these at suitable intervals. She teaches the patient and the family the necessary technique for the prevention of the spread of the disease in the home. She helps to organize chest clinics and arranges



transportation for certain patients. She keeps constant, watchful supervision over all cases, suspects and their contacts.

*Midwife Control:* The functions of the State advisory nurse in midwife control include: (1) Registration of all persons who engage in midwifery in Alabama; (2) Instruction of all midwives in the State; and (3) Advisory service to county health personnel relative to midwife control.

The county health officer and nurse supervise and teach the midwives according to methods advocated by the State Medical Association and the State Department of Health. The nurse works under the direction of the county health officer in this as in rendering all of her services. The county board of health approves all teaching procedures used by the nurse. This board also grants permits to engage in midwifery to such persons as are declared upon examination to be qualified to engage in midwifery and whose services are needed in the community. The board has the authority to revoke the permit of any midwife who fails to comply with the laws and regulations governing midwifery or for other sufficient cause.

Midwives are organized into small clubs in each county. A leader is elected by every club. Her duties include: (1) Stimulation of reporting of prenatal cases and births and to inspire the midwives to render better service; (2) Urging upon her club members the importance of following the advice of the county health officer and nurse; (3) Checking equipment and interpreting laws and regulations concerning midwifery; (4) Distribution of eye drops, prenatal and postpartum sheets; (5) Assistance to midwives in filling out birth certificates for deliveries they have attended; and (6) Submission of written reports to the county health nurse when her club meets.

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Society has a basic responsibility for assuring, to all of its members, healthful conditions of housing and living, a reasonable degree of economic security, proper facilities for curative and preventive medicine and adequate medical care—in fact the control, so far as means are known to science, of all of the environmental factors that affect physical and mental well-being.—*Sydenstricker*.

## BUREAU OF SANITATION

G. H. Hazlehurst, Director

### INSPECTION OF FAIR GROUNDS, CIRCUS, AND CARNIVAL CONCESSIONS

The 1935 season of county fairs, carnivals, and circus stands in this State, which has just closed, approached the 1930 season in numbers of exhibitions held and numbers of concessions operating. This may be viewed as an indication of improved economic conditions.

It has also constituted a serious problem in inspection activity. Since the season of 1925 it has been the policy of the Division of Inspection to apply to food-handling concessions at itinerant carnivals, etc., as rigidly as practicable, the same regulations and restrictions as are applied throughout the year to food-handling concessions permanently located. Any more liberal or less consistent policy would constitute a glaring inconsistency, and be manifestly discriminatory to established local, tax-paying business enterprises, as well as a failure in an important phase of the protection of the public health.

Circus, carnival, and fair-grounds "hot-dog," hamburger, lemonade, cotton candy, candied apple, etc., stands are forced, by their very nature, to operate under conditions which are not particularly favorable to sanitation. They are usually housed in tents, which are difficult to screen; they are located on the midway, or an aisle in an exhibit building, and the prime object of the operator is to provide a ready means for quick service. Provision of an enclosed space, which patrons would have to enter for service, would materially deter patronage.

Under these circumstances, the most practical means of protecting the preparation and display of food-stuffs has appeared to be a glass canopy around three sides and over at least half the top of the hot-plate or display counter. Cakes and pastry are required to be kept under glass or screen. Cotton candy must be made under a canopy, and each portion covered with paper if peddled around the grounds. Candied apples must be dipped and cooled in a screened space, and peddled in a screened tray. Beverages, such as cider, lemonade, and citrus juices must be kept in containers such that

ice does not come into direct contact with the beverages, and must be dispensed in paper cups.

This season the district inspectors and local sanitation officers have been markedly successful in having provision made for the comfort of patrons and the sanitary disposal of human wastes. All fair-grounds have been provided with sanitary privies—in some cases of a temporary nature, but effective—and carnivals and circuses have been required to make adequate provision for the convenience and comfort of their personnel, so as not to create nuisance to the community.

In no case has permission been granted for the making of ice cream on the exhibition grounds. Some of the larger circuses and fair amusement companies carried "frozen delight" ice cream freezers on trucks, and made efforts to have waived that provision of the regulations prescribing that only ice cream made in regularly inspected plants may be sold on the grounds. However, as stated above, no such waiver was granted.

Although it entailed considerable travel and irregular hours, every large circus was met by a district inspector, and all fairs and carnivals were visited. Where possible, local sanitation officers or health officers were instructed and left in charge; in localities without county health departments, the district inspector remained, or made several return visits during the week.

Nearly 3,000 concession inspections had been made by the four district inspectors during that portion of the present season ending October 26, with several fairs and carnivals still scheduled to show. Since 1925, over 30,000 such inspections have been made.

If statements of circus managers and concession operators may be taken at face value, Alabama is the only State, or one of a very small number, which makes an organized effort to control the sanitary conditions surrounding the preparation, display, and sale of foodstuffs on exhibition grounds. Nevertheless, without attempting to draw odious comparisons, it appears obvious that if there is any basis whatsoever for the assumption that food-stuffs exposed to dust, flies, and unclean containers endanger the health of consumers, here is a class

of food-handling establishments control of which should be a fundamental duty of every inspector.

In Alabama this is conceived to be a necessary seasonal activity, to be conducted in addition to the routine inspection of hotels, cafes, barber shops, bottling plants, etc., and the grading of milk supplies, even though, during this period, these routine activities must be somewhat curtailed and extra time devoted to this seasonal work.

\* \* \*

Another current seasonal activity of the Division of Inspection is the certification of oyster shuckers and dealers. Certificates are not issued until all physical specifications of the Shellfish Regulations have been complied with, and indications are that prescribed methods will be followed.

Since early in September of this season thirty-four shuckers and dealers have received certificates. These certificate numbers appear on all cans of oysters packed by such shuckers, and on the tags of every sack or barrel of shell oysters sold. As other individuals enter the industry and equip their establishments to comply with the regulations, certificates will be issued.

As soon as the waters become cooler and fresher, the oysters will be in prime condition, and lovers of oysters may feel safe in eating any oysters bearing the stamp or embossed figures of an Alabama certificate number on the can.

C. A. A.

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## BUREAU OF VITAL STATISTICS

Leonard V. Phelps, Director

### THE NEW CERTIFICATE FOR THE REGISTRATION OF STILLBIRTHS

Under Section 1070 of the Code of Alabama, 1923, it was required that a stillborn child be registered both as a birth and as a death, and that a separate certificate of birth and death be filed in the usual manner, with the local registrar of vital statistics.

The physician, if there was one in attendance at birth, completed the birth certificate and filed it with the local registrar. He also completed the medical certificate of death, the undertaker having previously obtained the personal particulars requested on the certificate. The undertaker was



File No. for  
CountyCERTIFICATE OF STILLBIRTH  
STATE OF ALABAMA—BUREAU OF VITAL STATISTICS  
STATE BOARD OF HEALTHFile No. for State  
Registrar Only

## 1. PLACE OF BIRTH

County

Reg. District or  
Beat No.

Certificate No.

City or Town

Street or R.F.D. No.

Street

(If stillbirth occurred in a hospital or institution give its NAME instead of street and number.)

## 1a. RESIDENCE OF MOTHER: State

County

Beat

City or Town

R.F.D. No.

Street

## 2. FULL NAME OF CHILD

3. Boy or

If plural

4. Twin, triplet or other

6. Premature

7. Are  
parents  
married?8. Date of  
stillbirth

(Month, day, year), 193

9. Full  
name

## FATHER

18. Full  
maiden  
name

## MOTHER

11. Color or race

12. Age at last birthday (Years)

20. Color or race

21. Age at last birthday (Years)

13. Birthplace (city or place)  
(State or country)22. Birthplace (city or place)  
(State or country)14. Trade, profession or particular  
kind of work done, a SPINNER,  
SAWYER, BOOKKEEPER, etc.23. Trade, profession, or particular kind  
of work done, as HOUSEKEEPER,  
TYPIST, NURSE, CLERK, etc.15. Industry or business in which  
work was done, as SILK MILL,  
SAWMILL, BANK, etc.24. Industry or business in which  
work was done, as OWN HOME,  
LAWYER'S OFFICE, SILK MILL, etc.27. Number of children of this mother,  
including this birth(a) Number  
born alive  
and now living(b) Number  
born alive  
but now dead

(c) Number stillborn

28. I hereby certify that I attended the birth of this child which was born dead at

M. on the date above stated.

Signed

(Physician, Midwife, Father, etc.)

29. Address

## MEDICAL CERTIFICATE OF ATTENDING PHYSICIAN, HEALTH OFFICER OR CORONER\*

30. I hereby certify that I investigated the birth of this child, which was born dead

(Month) (Day) (Year) (Hour) M.

and that said death occurred before labor.

31. Period of Uterogestation

32. Cause of Stillbirth

(Months)

33. Signed

M. D.

34. Address

(Physician, Health Officer, Coroner)

35. Place of burial  
or removal36. Date of  
burial

(Month) (Day) (Year)

37. Signature of Undertaker  
or person in charge38. Address of  
Undertaker

39. Filed

19

Registrar

41. Burial Permit Issued by

42. Date of Issue

\*SEE INSTRUCTIONS ON OTHER SIDE

MARGIN RESERVED FOR BINDING  
Write Plainly With Durable Black Ink. This is a Permanent Record  
N. B.—In case of twin or triplet stillbirths, SEPARATE CERTIFICATE must be made for each, and  
the number of each, in order of birth stated

obligated to file the death certificate with the local registrar.

Because of the fact that many of the items required on the birth certificate were identical with those on the death certificate, it was thought, by the Bureau of Vital Statistics and others, that a combined birth and death certificate could be prepared which would contain all of the information requested previously on one certificate. Such a certificate would require less time to complete than two separate certificates and would also reduce the space necessary for their storage by fifty per cent, when permanently filed.

The idea of having a combined certificate is not a new one. A combined certificate has been used in at least two other states

and found practical. The new certificate, a copy of which is shown, is very similar to that now used by North Carolina and New York State. Two other states have indicated that they would favor having such a certificate.

One should not confuse the use of a "combined certificate" with that of a "single" certificate, confined to the registration of a stillbirth as only a birth or as a death. The birth and the death should both be registered, but it is not necessary to have them registered on separate certificates.

Under the previous law concerning the registration of stillbirths, the attendant at birth obtained the personal particulars, whereas, under the present law, the undertaker, or person acting in the capacity of

undertaker, is required to obtain them. (Items 1-27.) The attendant at birth must certify to the fact of his attendance (Items 28-29) and that the child was born dead and, if a physician, complete the medical certificate (Items 30-34). The undertaker or person acting in that capacity is then required to complete the certificate and present it to the local registrar of vital statistics and obtain a burial permit before removing the body for burial or other disposition.

If there was no physician in attendance, then the midwife, or person acting as such, shall sign Items 28-29 and notify the local registrar of such death, and, when so notified, the local registrar shall immediately report the case to the county health officer for investigation as a death without medical attendance (Section 1072, Code of Alabama). The midwife cannot complete the medical certificate.

The county health officer shall immediately investigate and certify as to the cause of death; provided that if the health officer has reason to believe that the death may have been due to unlawful act or neglect, he shall refer the case to the coroner or other proper officer for his investigation and certification.

When there is no county health officer, and when there is no reason to believe the death to be due to an unlawful act or neglect, in such cases only, the registrar is authorized to make the certificate and return from the statement of relatives or other persons having adequate knowledge of the facts; provided that when there is reason to believe death due to an unlawful act or neglect and there is no county health officer, the registrar shall notify the coroner or other proper officer for his investigation and certification.

The undertaker, or person acting as undertaker, however, continues to be responsible for filing the certificate, subsequent to the completion of the medical certificate, with the local registrar.

The combined stillbirth certificate will, I believe, help us to obtain a more complete registration of stillbirths than ever before. That will only be possible, however, if the attendant at birth and death, the undertaker and the local registrar work toward that end.

In cases where a stillbirth has occurred, and some member of the family is acting in the capacity of undertaker, and is not familiar with the law requiring him to register the stillbirth, and a physician has been called to attend the birth, he would greatly assist the Bureau of Vital Statistics by informing and assisting that person in carrying out his obligation to file the stillbirth certificate.

The new stillbirth certificates have been printed on pink paper in order that they may not be confused with the death certificate, which is of the same size, but white in color.

## CURRENT STATISTICS

### \*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

	Sept.	Oct.	Estimated Expectancy Oct.
Typhoid	74	24	106
Typhus	27	25	10
Malaria	1617	858	646
Smallpox	0	0	5
Measles	20	16	34
Scarlet fever	53	60	192
Whooping cough	51	41	59
Diphtheria	178	177	266
Influenza	80	76	90
Mumps	19	12	17
Poliomyelitis	4	3	5
Encephalitis	5	1	1
Chickenpox	7	50	14
Tetanus	7	7	8
Tuberculosis	237	238	341
Pellagra	36	28	30
Meningitis	5	2	2
Pneumonia	65	140	75
Syphilis	802	564	192
Chancroid	8	6	11
Gonorrhea	316	264	178
Ophthalmia neonatorum	4	1	1
Trachoma	0	0	0
Tularemia	0	0	0
Undulant fever	6	6	3
Dengue	1	1	0
Amebic dysentery	0	0	0
Rabies—Human cases	1	1	0
Positive animal heads	71	75	

\*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years. With the venereal diseases, clinic cases were not included prior to this year.

## Woman's Auxiliary

Mrs. Thos. E. Dilworth  
State Publicity Chairman  
Huntsville, Ala.

According to the Constitution and By-Laws (Article VI, Section 3) that "A meeting of the Board of Directors shall be held in Chicago at the same time the Board of Trustees and the Secretaries of the State Societies of the American Medical Association are in session," a meeting of the Board of the Directors of the Woman's Auxiliary to the American Medical Asso-



ciation was called to order at 10 A. M., November 15th, third floor, Palmer House, Chicago, Illinois.

As Chairman of Revisions, our State President, Mrs. James L. Jordan, attended this meeting and presented report covering the work of the office to date.

Mrs. Jordan also attended the Twelfth Annual Meeting of the Southern Medical Association held in St. Louis, Missouri, November 19-22.

The following is a summary of the report Mrs. Jordan presented from our State Auxiliary:

"The Woman's Auxiliary to the Alabama State Medical Association held its annual meeting in Mobile in April 1935, with Mrs. Robert W. Tomlinson, President of the Woman's Auxiliary to the American Medical Association, as guest of honor.

Alabama reported eleven organized counties with a total paid-up membership of two hundred eighty-three, of whom fifty are new members.

The principal activities sponsored by the Alabama Auxiliaries during the past year were:

**Philanthropic:** Obtaining funds for a preventorium; aiding in the Christmas seal sale; assisting in a financial way clinics for the tuberculous; sponsoring the Crippled Children's Clinic and Day Nursery; providing milk and clothing for school children and county nurse needs.

**Health:** Open health meetings were held inviting the members of the Federated Clubs and members of the P. T. A. organizations. Subscriptions to Hygeia have been given to several schools and libraries. Jefferson County sponsors a health contest in the public schools. The silver loving cup which is awarded the winning school, together with a very interesting scrap book on health kept by the schools, were exhibited at the convention in Atlantic City. A state health program has been arranged, approved by our Advisory Council and sent out to all auxiliaries with recommendations that they use them in their meetings.

**Education:** Our state project is the Lettie Daffin Perdue Scholarship Fund. This scholarship is named for a beloved deceased past president and each auxiliary contributes generously to this fund. Jefferson

County Auxiliaries have a loan scholarship of their own.

**Publicity:** The President of this Auxiliary and her secretary, Mrs. Thomas E. Dilworth, have compiled and edited the state's first year book. The President has been guest speaker at two of the county auxiliaries this fall and plans to meet with a number of others before her year is out, in an effort to bind the county auxiliaries closer together. The President, Mrs. James L. Jordan, had the privilege of making the response to the welcome address at the convention of the Woman's Auxiliary to the American Medical Association in Atlantic City.

**Legislative:** With the approval of the State Advisory Council, the President sent out copies of the Sterilization Bill recommending that it be supported by the various auxiliaries. They were also advised that social medicine in its present form is very objectionable to the medical profession and not in the best interests of the laity.

At the State Convention in April it was voted to observe Doctors' Day in commemoration of struggles and sacrifices that the medical profession has made in the defense of human living. Alabama will observe this day in May. At this same convention it was voted to pay \$50.00 toward the expense of sending the State President to the National Convention."

On October 10th our President was guest speaker at Etowah County Auxiliary in Gadsden at the Turrentine Club Luncheon. Mrs. W. M. McKissack responded to invitation to speak briefly.

On October 18th Mrs. Jordan addressed the Madison County Auxiliary.

Mrs. G. E. Silvey of Gadsden attended the Southern Convention at St. Louis as a delegate.

Mrs. T. F. Huey of Anniston, President of the Calhoun County Auxiliary, also attended the Southern Medical Convention as a delegate.

Mrs. W. C. Hatchett of Huntsville attended the Southern Medical Convention.

Mrs. Jordan left Huntsville Wednesday, November 13th, to attend both the Board meeting in Chicago and the Convention in St. Louis, having already conferred with our National President, Mrs. Rogers N. Herbert, of Nashville, Tenn.

## *Truth About Medicines*

### PROPAGANDA FOR REFORM

**Nonspecific Protein Treatment.**—In The Journal A. M. A., November 30, 1935, p. 1765, appears the first of two special articles on nonspecific protein treatment, prepared under the auspices of the Council on Pharmacy and Chemistry. In this article Dr. Hektoen discusses briefly the nature of the reactions to nonspecific proteins in the treatment of infectious diseases. In The Journal A. M. A. for December 7, Dr. Cecil will review experiences and results with this treatment; he shows that modern protein treatment appears to have achieved "a permanent place for itself in modern therapeutics," not only of certain acute and subacute infectious diseases but also in other conditions, notably thrombo-angiitis obliterans. Both articles point out that the effects of nonspecific proteins in infectious conditions are associated with nonspecific as well as specific anti-infectious processes. It is evident that much more study of the changes induced by nonspecific proteins in the human body is required in order to obtain more of an insight into the nature and significance of these processes as they occur under various conditions. From Cecil's review it appears further that the indications, contraindications and limitations of nonspecific protein treatment in its present forms are well under way toward fairly definite establishment. Certainly the indiscriminate and offhand use of the treatment is unwarranted and not free from danger. (J. A. M. A., November 30, 1935, p. 1776.)

**Vitamin C and Infection.**—Few more cogent examples of the justification for the painstaking and deliberate methods of scientific research have developed than is shown in the story of cevitamic acid (vitamin C). Once the evidence had been obtained that a deficiency in this food factor could be produced at will in experimental animals, great effort was made to find sources of it in nature. Concentrates were made from the richest of these and, when they had been sufficiently purified, the chemical constitution was at length established. The goal of this study was reached in 1933, when the synthesis of cevitamic acid was achieved. Perhaps the story is the more thrilling because of the long history of the

tacit recognition of human scurvy as a deficiency disorder. The value of cevitamic acid as a preventive and cure of human and experimental scurvy has been demonstrated repeatedly. Jungblut and Zwemer have recently reported that diphtheria toxin is inactivated by vitamin C in vitro. Furthermore, cevitamic acid seems to be able to protect guinea-pigs against the fatal outcome of diphtheria intoxication. Similar studies of King and Menten have demonstrated the marked influence of vitamin C in promoting the resistance of guinea-pigs to diphtheria toxin. These conclusions seem to indicate that cevitamic acid bears a relation to immunologic reactions. (J. A. M. A., November 16, 1935, p. 1609.)

### ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following apparatus have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

**Lepel Ultra-Short Wave Machine.**—This machine is recommended for medical and surgical diathermy. The unit is of the spark gap type. The tissue heating ability of the unit was investigated in a clinic and found to be satisfactory. Burns may be produced by this machine, but, with ordinary care, they may be avoided. Lepel High Frequency Laboratories, Inc., New York. (J. A. M. A., November 16, 1935, p. 1606.)

**Liebel-Flarsheim (SW2-C) Short Wave Generator.**—This unit is recommended for medical diathermy and for minor electro-surgery. The tissue heating ability of the unit was investigated and found to be satisfactory. Burns may be produced by this machine, but, with ordinary care, they may be avoided. The Liebel-Flarsheim Company, Cincinnati.

**McIntosh Universal Diathermy Unit.**—This unit is recommended for medical and surgical diathermy. It conforms with the standards for diathermy machines previously established by the Council. From a clinical standpoint, the Council found the machine a satisfactory device for ordinary local medical diathermy and for electrodesiccation and electrocoagulation. McIntosh Electrical Corporation, Chicago. (J. A. M. A., November 23, 1935, p. 1682.)



## APPENDIX

### ALABAMA GENERAL LAWS RELAT- ING TO PUBLIC HEALTH

REGULAR SESSION, 1935

No. 247)

(S. 244—Kelly)

#### AN ACT

To provide for the filing of delayed certificates of birth and death.

*Be it Enacted by the Legislature of Alabama:*

Section 1. THE FILING OF DELAYED CERTIFICATES OF BIRTH OR DEATH PROVIDED FOR. Birth certificates shall be accepted for filing at any time after birth, provided they be authenticated by the signature of the attending physician. If birth was attended by a midwife, or any other person, and the certificate is tendered one year or more after birth, it must be accompanied by such sworn statements or affidavits as the State Board of Health shall prescribe. Death certificates shall be accepted for filing up to one year from the date of death, provided, that if tendered sixty days or more after death, they must be authenticated by such sworn statements or affidavits as the State Board of Health shall prescribe. Certificates of death occurring more than one year prior to tender shall not be accepted for filing. Nothing in this section shall exempt physicians, midwives, or other attendants at births, or undertakers, or persons acting as undertakers at burials, from filing birth, stillbirth, and death certificates, as prescribed elsewhere in this Article.

Section 2. That this act shall take effect upon passage and signature by the Governor.

Approved August 19, 1935.

No. 248)

(S. 245—Kelly.)

#### AN ACT

To repeal Sections 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, and 1932 of the Code of Alabama of 1923, all of which sections are parts of the Municipal Corporations Code, pertaining to the public health of Alabama.

*Be it Enacted by the Legislature of Alabama:*

Section 1. That Sections 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, and 1932 of the Code of Alabama of 1923, all of which sections constitute Article 17, on Municipal Corporations, and pertain solely to the public health of Alabama are hereby repealed.

Section 2. That this Act shall take effect upon its passage, and signature by the Governor.

Approved August 20, 1935.

No. 249)

(S. 246—Kelly.)

#### AN ACT

To repeal Sections 1057, 1062, 1083, 1084, 1099, 1117, 1121, 1122, 1123, 1126, 4357, 4358, 4368,

4467, 4471, and 4474, of the Code of Alabama of 1923, all of which are parts of the Public Health Law.

*Be it Enacted by the Legislature of Alabama:*

Section 1. That Sections 1057, 1062, 1083, 1084, 1099, 1117, 1121, 1122, 1123, 1126, 4357, 4358, 4368, 4467, 4471, and 4474, of the Code of Alabama of 1923, all of which are parts of or pertain to the Public Health Law, are hereby repealed.

Section 2. That this act shall take effect upon passage and signature by the Governor.

Approved August 20, 1935.

No. 443)

(S. 247—Kelly.)

#### AN ACT

To amend Sections 1058, 1063, 1074, 1081, 1141, 1146, and 2051 of the Code of Alabama, as amended by the Acts of 1927, all of which relate to the public health of Alabama.

*Be it Enacted by the Legislature of Alabama:*

That Section 1058, 1063, 1074, 1081, 1141, 1146, and 2051 of the Code of Alabama, as amended by the Acts of 1927, all of which relate to the public health of Alabama, be amended to read, respectively, as follows:

Section 1058. DUTIES OF COUNTY HEALTH OFFICERS PRESCRIBED. It shall be the duty of the County Health Officer: (1) To exercise, subject to the advice of the County Board of Health and in accordance with the health laws of the State, general supervision over the sanitary interests of the county, and should he discover any cause of disease, or the existence of any condition detrimental to the health of the people, he shall, so far as authorized by law, compel the removal or abatement of the same, and should no authority for removal or abatement exist, he shall report the fact to the County Board of Health, adding such recommendations as to special action as he may deem proper. (2) To make personal and thorough investigation of the first case, or early cases, of any diseases suspected of being, or known to be, any one of those enumerated in Section 1092 of the Code that may come to his knowledge or be reported to him; and should he decide such case, or cases, to be one of those enumerated in said section, and in imminent danger of spreading, he shall, in accordance with the law, institute immediate measures to prevent the spread of such disease, and shall forthwith report the facts to the Chairman of the County Board of Health, and to the State Health Officer. He shall cause to be kept accurate records regarding the incidence, cause, source and results of all such outbreaks. Said records are to be kept on file in the office of the County Health Departments of the several

counties in which such outbreaks occur, or in the State Health Department when necessary. Said records, when certified to by the County Health Officer or his successor in office, under oath, shall be accepted as evidence of the facts set forth in the record by the courts. (3) To procure, at the expense of the county, an adequate supply of vaccine virus to protect the population of the county against smallpox, and to enable him to effectuate any provisions for vaccination as may be prescribed by County or Municipal Boards of Education or County Boards of Health. (4) (a) To visit all jails, whether county or municipal, all convict camps, and the county almshouse, at least once a month, and to make careful investigation as respects the drinking water, the food, the clothing, and bedding supplied to the prisoners of the former and the inmates of the latter; also, as to the ventilation, air space, heating and bathing facilities, closets, drainage, etc., of these institutions; and when any of said supplies are found to be inadequate in quantity or deficient in quality, or any of said conditions insanitary, the County Health Officer shall make in writing a report thereof to the Judge of Probate and the Court of County Commissioners; or other like board, or the proper municipal authorities, as the case may be; whereupon, said Judge of Probate and Court of County Commissioners, or other like board, or the proper municipal authorities, as the case may be, shall carry out whatever recommendations are made by the County Health Officer, and said Health Officer shall forward duplicates of his reports to the State Health Officer. In the event of failure of compliance with said recommendations, it shall be the duty of the proper State authorities to take appropriate action. (b) He shall visit the county courthouse and any other public building belonging to the county once each month and make investigations corresponding with those laid down in this section as applying to the jail and almshouse, and should he find insanitary conditions existing he shall report the same to the Court of County Commissioners, or other like board; and the Court of County Commissioners, or other like board, shall remedy the insanitary conditions in accordance with the recommendations of the County Health Officer. (5) To transmit to the State Board of Health by the tenth day of each month all original birth, stillbirth, and death certificates, and reports received by him from registrars, coffin dealers, hospitals, and other institutions, for the preceding month; also any delayed certificates received by him during the month; and such other weekly and monthly reports as may be required. (6) To make to the County Board of Health and Court of County Commissioners, or like body, a monthly report of activities and accomplishments. (7) To appear before the Grand Jury at each of its sittings and to report all violations of the health laws of the State, especially any wilful failures on the part of the physicians of the county, including all municipalities therein, to report the births, deaths, and infectious diseases that occur in their practice; also, to report all failures on the part of midwives to report the

births and the deaths that occur in their practice; also, to report failures on the part of dealers in coffins to report all sales of coffins made by them. (8) In case of a contemplated absence from the county by the County Health Officer, or in case of his disability from any cause of a character so as to interfere with the discharge of his official duties, he shall notify the Chairman of the County Board of Health and the State Health Officer of such condition; and he shall, in writing, name a member of the County Medical Society who is acceptable to the County Board of Health, to act for him during his absence or disability; but his absence or disability shall not be for longer than thirty days, unless he first obtains the approval of the State Health Officer. (9) To be present at all meetings of the County Board of Health for the purpose of keeping that body fully informed as to health conditions prevailing in the county; and to likewise keep the Court of County Commissioners, or other like board, informed on such matters as said board may deem proper. (10) To attend all conferences of county health officers which may be called by the State Health Officer. (11) To discharge such other health functions as are, or may be required of him by law. (12) To occupy an office in the courthouse of the county, to be assigned by the Court of County Commissioners, or other like board; and in the event that an office in the courthouse is not available the same court or board may in its discretion provide an office for him conveniently located with reference to the courthouse, and the Court of County Commissioners, or other like board, may in its discretion appropriate from the revenue of the county such sums as are found necessary to furnish and equip the office of the County Health Officer with all necessary supplies, and furnish all necessary clerical help, transportation, and other expenses of the County Health Officer, and may in its discretion appropriate, from the revenues of the county, money for the prosecution of public health work which has been recommended by the County Health Officer and indorsed by the County Board of Health and approved by said Court of County Commissioners, or other like board. (13) To visit, so far as lies in his power, all cases of infectious or contagious diseases that occur in the county, for the purpose of seeing that all proper measures are enforced to prevent their spread, and to repeat these visits from time to time as may be necessary. (14) To make a special effort to locate all cases of tuberculosis and pellagra in the county, especially incipient cases, with a view of not only urging prompt treatment thereof, but also the adoption of such precautions as are deemed necessary to protect others. (15) To inspect the schools of the county at least once annually, with the view of seeing that they are supplied with pure drinking water and surrounded by sanitary conditions in all respects, especially to investigate whether or not said schools are equipped with sanitary closets; further, to examine the pupils of the schools at reasonable intervals for the purpose of ascertaining any defects of sight or of hearing that may exist, or of ascertaining the presence of adenoids, en-



larged tonsils, skin diseases, spinal curvature, hookworm disease, etc., that may interfere with progress in their studies; and, whenever any of the above named diseases or defects are discovered, the County Health Officer shall so notify the parents of the child affected. (16) To teach the proprietors of slaughter houses, dairies, grocery houses, hotels, lunch stands, etc., the importance of protecting all food products from dust and insects of every kind, and require the proper protection of food products by glass cases, screens, or other devices approved by the County Board of Health, and to impress upon the people of the county the importance of similar protection in their own homes. (17) To teach the people of the county by lectures, newspaper articles, and demonstrations, the causes, modes of propagation and of prevention of diseases, with special reference to the spread of disease by flies, mosquitoes, rats, fleas, ticks, and other vermin; also, the importance of screening their houses against these purveyors of disease. (18) To teach the people of the county how to maintain sanitary conditions in and around their homes, especially how to supply themselves with pure drinking water and pure milk, and also how to provide sanitary closets. (19) To attend meetings of the Court of County Commissioners or Board of Revenue from time to time, or whenever so requested, for the purpose of giving said court or board all desired information as respects the public health interests of the county. (20) To prepare and file for permanent record with the Court of County Commissioners, or like body, an annual statement of receipts and disbursements of his unit. Said statement may be reasonably condensed but shall be sworn to, shall be open to public inspection at all times and shall reveal the salary and or other compensation of the County Health Officer and all other persons paid from funds of the unit, each listed separately. The statement shall set out the amounts received by the unit from each source of its revenue and shall be filed within not more than ninety days following the close of the unit's fiscal year, and said statement shall be spread upon the minutes of the said commissioners, or like body.

Section 1063. COUNTY QUARANTINE OFFICERS PROVIDED FOR. There shall be in each county, having no Health Officer, a County Quarantine Officer, who shall be a licensed physician, and who shall be appointed by the State Committee of Public Health on the recommendation of the County Board of Health, whose tenure of office shall expire on the election of a County Health Officer; provided, that in no event shall his term of office extend more than three years from the date of his appointment, and provided further that the State Committee of Public Health shall have power to remove a Quarantine Officer at any time, in its judgment, the public good requires such removal. The salary of the County Quarantine Officer shall be fixed, at not exceeding twenty-five dollars per month, by the Court of County Commissioners, or other like board, and shall be paid in monthly installments from the county treasury, as in the case of other salaries paid by the county. The County Quarantine Officer shall, under the supervision and control of the State Health Officer and County

Board of Health, perform all the duties in connection with the isolation, quarantine, and control of cases of infectious and contagious diseases that are required of full-time County Health Officers.

Section 1074. RECORDS AND REPORTS BY COFFIN DEALERS PRESCRIBED. Every person, firm or corporation selling a burial casket, and every person who makes one on a special order, shall keep a record showing the name and post-office address of the purchaser or orderer, the name, sex, color, and age of deceased, and date and place of death of deceased, which record shall be open to inspection of the State Registrar or his accredited representative at all times. On the fifth day of each month the person, firm or corporation selling caskets or making them on special order shall report each sale or making for the preceding month on such form as the State Board of Health shall provide, to the County Health Officer, or, in counties without County Health Officers, to the State Registrar; provided, that no person, firm, or corporation, selling caskets to dealers or undertakers only, shall be required to keep such record, nor shall such report be required from undertakers when they have direct charge of the disposition of the body. In case there are no sales or makings of burial caskets, each person, firm, or corporation engaged in the sale or making of them, except as herein provided for, shall report that fact on the fifth day of each month for the preceding month, on such form as the State Board of Health shall provide, to the County Health Officer; or in counties without County Health Officers, to the State Registrar. Every person, firm, or corporation selling a casket at retail, and not having charge of the disposition of the body, shall enclose within the casket a notice, furnished by the State Board of Health, calling the attention of the person or persons in charge of the disposition of the body to the requirements of the law; also, a blank certificate of death, and the rules and regulations of the State Board of Health concerning the burial or other disposition of a dead human body. Provided, that each County Health Officer shall send said coffin dealer's reports for the preceding month to the State Registrar on or before the tenth day of each month.

Section 1081. RECORDS AND REPORTS OF BIRTHS AND DEATHS IN INSTITUTIONS PRESCRIBED. All superintendents, managers, or other persons in charge of hospitals, almshouses, lying-in, or other institutions, public or private, to which persons resort for treatment of diseases or confinement, or are committed by process of law, shall forthwith make a record of all the personal and statistical particulars relative to the inmates in their institutions which are required in the forms of the certificate provided by this section, as directed by the State Registrar; and thereafter such record shall be by them made for all future inmates at the time of their admittance. In the case of persons admitted or committed for treatment of disease, the physician in charge shall specify for entry in the record, the nature of the disease, and where, in his opinion, it was contracted. The personal particulars and information required by this section shall be obtained from the individual

himself if it is practicable to do so; and, when they cannot be so obtained, they shall be obtained in as complete a manner as possible from relatives, friends, or other persons acquainted with the facts. Furthermore, all superintendents, managers, or other persons in charge of hospitals, almshouses, lying-in, or other institutions, public or private, to which persons resort for treatment of diseases or confinement, or are committed by process of law, shall keep a record of all births, stillbirths, and all deaths within their institutions, and on the fifth day of each month shall report such births, stillbirths, and deaths for the preceding month, on such form as the State Board of Health shall provide, to the County Health Officer, or in counties without a County Health Officer, to the State Registrar. If there are no births, stillbirths, or deaths in any month, a report stating that fact shall be made on the fifth day of the following month, on such form as the State Board of Health shall provide, to the County Health Officer, or, in counties without County Health Officers, to the State Registrar. Nothing in this section shall be taken to relieve the undertaker or other persons having charge of burial or removal, of his responsibility to file a death certificate in accordance with Section 1073, or the responsibility of physicians or midwives to file birth certificates in accordance with Section 1077. Provided, that each County Health Officer shall send said report of each birth, stillbirth, and death for the preceding month, of each superintendent, manager, or other person in charge of hospitals, almshouses and lying-in or other institutions, public or private, to the State Registrar, on or before the tenth day of each month.

Section 1141. PROCEDURE IN CASE OF RESISTANCE TO A HEALTH OFFICER PRESCRIBED. If, in the attempt to perform any duty enjoined by any public health law of the State of Alabama, or rule or regulation of the State Board of Health, the Health or Quarantine Officer of a county, or his duly authorized representative, shall be forcibly resisted, or threatened with forceful resistance, such Health Officer shall, after conference with the County Board of Health, if found necessary, make affidavit before the judge of any court of record, the Judge of Probate, or any Justice of the Peace of said county, that said forceful resistance has been made, or threatened; whereupon, the officer before whom said affidavit has been made shall forthwith issue his warrant directed to the Sheriff, or to any bonded Constable of said county, commanding said Sheriff, or Constable, to remove or abate, under the direction of said Health Officer, said insanitary condition, or source of infection or offensive or indecent material or thing, or to remove said afflicted person; and it shall be the duty of said Sheriff, or Constable, to whom said warrant shall be delivered, to promptly execute the same. In executing every such warrant, the said Sheriff, or Constable, shall have the right to enter by force into any such lot, piece of ground, house, or vessel, or upon such pond, lake or stream.

Section 1146. STATE COMMITTEE OF PUBLIC HEALTH REQUIRED TO PROMULGATE

AND ENFORCE RULES FOR THE OPERATION OF FOOD HANDLING ESTABLISHMENTS. The State Committee of Public Health shall adopt and promulgate regulations for the construction, maintenance, and operation of all establishments, and their immediate surroundings, in which foods or beverages intended for human consumption are made, prepared, processed, displayed for sale, or served, and for the construction, maintenance and operation of hotels, tourist camps, recreation camps, or any places where sleeping accommodations for transients, tourists, or vacationists are advertised for hire, as well as of construction camps, and their surroundings. Copies of the said regulations shall be furnished to County Health Departments, whereupon, it shall be the duty of said County Health Departments to enforce such regulations within their respective jurisdictions. This section shall not restrict the power of County Boards of Health, or of municipal corporations, to adopt more stringent, or emergency, regulations or ordinances, respectively. County Health Officers are hereby authorized and empowered to close any establishment in which foods or beverages intended for human consumption are made, prepared, processed, displayed for sale, or served, in case of flagrant or continued violation of any of the aforesaid regulations. When such action is taken an official notice to that effect shall be posted on the main entrance of the said establishment, and it shall be unlawful to operate such closed establishment until the closing order has been formally revoked or vacated. Provided: That proprietors of establishments so closed shall have the right of appeal to the County Board of Health. In event such an appeal is made, the County Board of Health shall promptly investigate, and affirm or revoke the closing order. County Health Officers, or their delegated representatives, are hereby authorized to enter any establishment affected by this section at any time, for purposes of inspection, and are further authorized to score or grade establishments or the products of the same, and to publicly announce such scores or grades. It shall be unlawful to publish, or in any manner advertise, a score or grade which has not been officially awarded, or which has been revoked, or to hinder a Health Officer or his representative in the performance of his duty. Whenever the State Health Officer officially advises a judge of probate and/or a municipal corporation that he is in position to enforce the regulations authorized in this section in any county and municipality, it shall be unlawful thereafter for the Judge of Probate or the City Clerk of the said municipality to issue a privilege license for the operation of any establishment in which any food or beverage is made, prepared, processed, displayed for sale, or served, unless the applicant for the said license presents a permit for its operation from the County Health Officer. In the absence of a County Health Department, or in event the County Health Officer requests assistance, or, if in the discretion of the State Committee of Public Health and the State Health Officer, special circumstances make it advisable to take the enforcement of the regulations authorized by this section



out of the hands of any County Board of Health and County Health Officer, the State Health Officer is hereby authorized to enforce the said regulations.

Section 2051. PRIVIES, WATER CLOSETS, SEPTIC TANKS AND CONNECTIONS WITH SEWERAGE. To regulate privies, water closets, and septic tanks, and the construction thereof, and to compel the installation of same, and the connection of such water closets with such septic tanks, or with the sewerage system of the city or town; and, in case of failure to install or connect after reasonable notice, then the city or town may install proper privies, water closets, or septic tanks, as it deems advisable, and connect such water closets with such septic tanks or with the sewerage system of the city or town, the expense of same to be assessed against the property, and the cost thereof to be a lien upon the property in favor of the city or town, superior to all other liens, to be collected as other debts are collected or liens enforced. When privies, water closets, or septic tanks are installed and connections made by the city or town under the provisions of this section, the Mayor of such city or town shall prepare a statement, in writing, setting forth the name of the owner, and a description of the property upon which the improvements have been made, together with the cost of the installation of such privies, water closets, or septic tanks, and sanitary connections, which must be signed by the mayor in his official capacity and filed with the Probate Judge in the county in which such property is situated, for record in the mortgage records of the county. The filing of such statement shall operate as notice of such lien from the date of its filing.

Approved September 13, 1935.

No. 444) (S. 248—Kelly.

#### AN ACT

To amend Sections 1048, 1050, 1052, 1055, 1061, 1064, 1067, 1068, 1069, 1070, 1072, 1076, 1077, 1078, 1079, 1082, 1085, 1092, 1093, 1096, 1103, 1104, 1105, 1108, 1114, 1118, 1119, 1120, 1124, 1125, 1127, 1128, 1129, 1130, 1131, 1132, 1133, 1139, 1140, 1143, 1144, 1145, 1148, 1158, 1199, 1205, 1219, 4377, 4464, 4465, 4466, 4468, 4469, 4470, 4472, 4473, 4477, and 4478, of the Code of Alabama of 1923, all relating to the public health of Alabama.

*Be it enacted by the Legislature of Alabama:*

That Sections 1048, 1050, 1052, 1055, 1061, 1064, 1067, 1068, 1069, 1070, 1072, 1076, 1077, 1078, 1079, 1082, 1085, 1092, 1093, 1096, 1103, 1104, 1105, 1108, 1114, 1118, 1119, 1120, 1124, 1125, 1127, 1128, 1129, 1130, 1131, 1132, 1133, 1139, 1140, 1143, 1144, 1145, 1148, 1158, 1199, 1205, 1219, 4377, 4464, 4465, 4466, 4468, 4469, 4470, 4472, 4473, 4477, and 4478 of the Code of Alabama of 1923, be amended to read respectively as follows:

Section 1048. REPRESENTATION OF THE STATE BOARD OF HEALTH FIXED. When the State Board of Health is not in session said State Committee of Public Health shall act for said Board, and have and discharge all the prerogatives and duties of said Board, including the

adoption and promulgation of rules and regulations provided for in this chapter. When said Committee is not in session the State Health Officer, as the executive officer of the State Department of Health, shall act for said Board and said Committee, and shall report his actions to the said Board and said Committee, at their next regular respective meetings, for confirmation or modification.

Section 1050. SOLE CONTROL OF PUBLIC HEALTH VESTED IN STATE AND COUNTY BOARDS OF HEALTH. No local board of health, or other executive body for the exercise of public health functions, other than the County Board of Health, shall be established or exist in any county or municipality. Nor shall any municipality have a municipal health officer or other like officer. Nor shall any board, body, or organization, or any official or person, acting or claiming to be under any Federal authority or acting without claim of Federal or State authority, engage in any public health work, except under the supervision and control of the State Board of Health.

Section 1052. AUTHORITY AND JURISDICTION OF COUNTY BOARDS OF HEALTH DEFINED. It shall be the duty of the County Boards of Health in their respective counties and subject to the supervision and control of the State Board of Health—(1) To supervise the enforcement of the health laws of the State, including all ordinances or rules and regulations of municipalities or of County Boards of Health or of the State Board of Health; and to supervise the enforcement of the law for the collection of vital and mortuary statistics, and to adopt and promulgate, if necessary, rules and regulations for administering the health laws of the State and the rules and regulations of the State Board of Health, which rules and regulations of the County Boards of Health shall have the force and effect of law and shall be executed and enforced by the same bodies, officials, agents, and employees as in the case of health laws. (2) To investigate through County Health Officers or Quarantine officers, cases or outbreaks of any of the diseases enumerated or referred to in Section 1092 of this Code and to enforce such measures for the prevention, or extermination, of said diseases as are authorized by law. (3) To investigate through County Health Officers or Quarantine Officers all nuisances to public health, and through said Officers to take proper steps for the abatement of such nuisances. (4) To exercise, through County Health Officers or Quarantine Officers, special supervision over the sanitary conditions of schools, hospitals, asylums, jails, almshouses, theatres, opera houses, court houses, churches, public halls, prisons, markets, dairies, milk depots, slaughter pens or houses, railroad depots, railroad cars, dining cars, street railroad cars, lines or railroads and street railroads (including the territory contiguous to said lines), industrial and manufacturing establishments, offices, stores, banks, club houses, hotels, rooming houses, residences, the sources of supply, tanks, reservoirs, pumping stations, and avenues of conveyance of drinking water, and other institutions and places of like character; and whenever insanitary condi-

tions are found, to use all legal means to have the same abated. (5) To elect a County Health Officer, subject to the approval of the State Committee of Public Health, who shall devote all of his time to the duties of his office, and to fix his term of office at not less than three years, in such counties of the State as shall, through their proper authorities, make appropriations for full-time public health service. No County Health Officer elect shall assume office until his election shall have been approved by the State Committee of Public Health, and if such Committee refuses to approve his election, another County Health Officer shall be forthwith elected. The jurisdiction of such Officer shall extend to all parts of the County, including all incorporated municipalities; and should the Health Officer so elected neglect or fail faithfully to perform any of the duties which are lawfully prescribed for him, or if he fails or refuses to observe or conform to the rules, regulations, or policies of the State Board of Health, the State Health Officer shall remove said County Health Officer from office; and when any County Health Officer shall be so removed he shall have the right to appeal to the State Committee of Public Health, and when such appeal has been taken said Committee shall investigate fully the causes for which he was removed from office. If six members of said Committee vote to affirm the action of said State Health Officer, then his action shall be affirmed; otherwise, it shall be reversed. (6) Whenever two or more counties, acting through their respective Courts of County Commissioners or Boards of Revenue, as the case may be, shall agree to appropriate proportionately from the funds of their respective counties a sufficient sum to provide a District Health Department, then the County Boards of Health of these respective counties shall meet in joint session and elect a full-time health officer, and fix his term of office at not less than three years. The full-time health officer shall devote all of his time to the duties of his office in the district for which he is elected. No full-time health officer elected under the authority of this sub-section, shall assume office until his election shall have been approved by the State Committee of Public Health, and if such Committee refuses to approve his election, another District Health Officer shall forthwith be elected. The jurisdiction of such officer shall extend to all parts of each county in the district, including all incorporated municipalities in the several counties composing such district; and he shall be subject to removal as provided in sub-section 5, next preceding. The salary of District Health Officers shall be fixed in the same manner as those of County Health Officers. Wherever the term "County Health Officer" occurs in this chapter, it shall be construed as applying likewise to District Health Officers.

Section 1055. **POWERS OF COUNTY HEALTH OFFICERS DEFINED.** The County Health Officer, elected as provided in Section 1052 of the Code, shall devote all of his time to official work, and shall under no circumstances engage in private practice. He shall, under the direction of the State Health Officer and the County Board of

Health, have sole direction of all sanitary and public health work within the county, including incorporated municipalities, and shall employ for his assistants, subject to the approval of the County Board of Health, such number of physicians, nurses, clerks, inspectors, and other employees as are found necessary to accomplish the work. The County Health Officer may remove from office any assistant or employee.

Section 1061. **BOND OF COUNTY HEALTH OFFICERS PRESCRIBED.** The Health Officer of a county shall enter into bond, with sufficient sureties, payable to the State Health Officer and the Judge of Probate of the county in a sum equal to the amount of his annual salary, with condition for the faithful performance of all such duties as are or may be required of him by law.

Section 1064. **PRACTICE OF MIDWIFERY REGULATED.** (1) It shall be unlawful, for any person, other than a regularly licensed physician, to practice as a midwife without first making written application for and receiving a permit to practice midwifery from the County Board of Health. The term "midwife" shall be construed to include any person, other than a regularly licensed physician, who shall attend, or who shall bargain, contract, or agree to attend, any woman at or during childbirth. Any person violating this section shall be guilty of a misdemeanor, and upon conviction, upon the first offense, shall be fined not less than Ten Dollars (\$10.00) or imprisonment for not less than one month, and for subsequent offenses shall be fined not less than Fifty Dollars, (\$50.00), nor more than Five Hundred Dollars, (\$500.00), or imprisoned for not less than three months nor more than six months, or both.

(2) County Boards of Health shall from time to time, upon written applications made in such form and in such manner as may be prescribed by the State Board of Health, either by a schedule of questions to be answered and subscribed, or orally, examine any person of a good moral character and temperate habits who desires to engage in the practice of midwifery, as to his or her qualifications and knowledge of the art; and if a majority of the County Board of Health shall be satisfied that such person is competent to engage in the practice of midwifery, said Board shall enter the name of such person as a registered midwife in a book provided for that purpose, and may at its discretion issue to such person a permit to practice midwifery to be signed by the chairman of said Board, and countersigned by the Health Officer. (3) No permit to practice midwifery shall be issued by a County Board of Health to any person, unless such person shall present to said County Board of Health satisfactory evidence of having or possessing sufficient knowledge and skill in the art of midwifery, and that such person is free from a communicable disease, and of good moral character. The said permit may be revoked by the County Board of Health at any time, after proper investigation because of failure to comply with the provisions of this chapter, and/or the rules and regulations of the State Board of Health applying to midwifery.

Section 1067. **REGISTRATION DISTRICTS DEFINED.** For the purposes of this article the



State shall be divided into registration districts as follows: Each voting precinct in the State shall constitute a primary registration district; provided, that the State Board of Health may combine two or more primary registration districts, or divide one registration district into two or more primary registration districts, to facilitate registration; and it may establish any State hospital, charitable, or penal institution as a primary registration district.

Section 1068. LOCAL REGISTRARS, DEPUTY-REGISTRARS, AND SUB-REGISTRARS OF VITAL STATISTICS; THEIR APPOINTMENT, TERMS OF OFFICE, AND REMOVAL PROVIDED FOR. In each primary registration district there shall be a local registrar of vital statistics, appointed by the State Board of Health. Each local registrar shall, immediately upon his acceptance of appointment as such, appoint a deputy whose duty it shall be to act in his stead in case of his absence or inability, and such deputy shall in writing accept such appointment, and when acting shall be subject to all laws, rules, and regulations governing local registrars. When it appears necessary for the convenience of the citizens of any registration district, the local registrar is authorized to appoint, with the approval of the State Registrar, one or more suitable persons to act as sub-registrars, who shall be authorized to receive birth, stillbirth, and death certificates and to issue burial or removal permits in and for such portions of the registration district as may be designated, and each such sub-registrar shall note on each certificate, over his signature, the date of filing, and shall forward all certificates to the local registrar of the district within three days, and in all cases before the third day of the following month; provided, however, that each such sub-registrar shall be subject to the supervision and control of the State Registrar. The term of office of a local registrar of vital statistics so appointed shall be four years; provided, that each local registrar shall hold office until his successor shall have been qualified and appointed, unless such office shall become vacant by death, disqualification, operation of law, or other cause. Each local registrar and deputy registrar shall notify the State Board of Health of his intent to resign at least ten days before any resignation shall take effect or his term expires, whereupon his successor shall be appointed. Qualifications of local registrars, deputy registrars, and sub-registrars of vital statistics hereafter appointed shall be prescribed by the State Board of Health; provided, that no licensed embalmer or undertaker, and no person employed in the business of embalming, undertaking, or making or selling caskets, shall be eligible for appointment as a local registrar, deputy registrar, or sub-registrar. A County Health Officer shall be eligible for appointment as a local registrar of vital statistics; but, if so appointed, he shall serve without additional remuneration therefor. In each primary registration district consisting of a State hospital, charitable, or penal institution, the local registrar shall be the superintendent, warden, or person in charge; provided, however, that he shall receive no additional remuneration for serving as

such local registrar. Any local registrar, deputy registrar, or sub-registrar of vital statistics, who fails or neglects to discharge efficiently the duties of his office, as set forth in this Article, or by the rules and regulations of the State Board of Health, shall be forthwith removed by the State Board of Health and such penalties may be imposed as are provided by this Article.

Section 1069. PERMITS FOR BURIAL OR REMOVAL OF DEAD BODIES PRESCRIBED. No dead human body shall be buried, cremated, or otherwise disposed of, or removed from or into any registration district, or be temporarily held pending further disposition more than seventy-two hours after death, unless a permit for burial, removal, or other disposition thereof shall have been properly issued by the local registrar of the registration district in which the death occurred, or in which the body was found. And no such burial or removal permit shall be issued by a local registrar until, wherever practicable, a complete and satisfactory certificate of death has been filed with him, as herein provided. In sparsely settled districts to be designated by the State Registrar of Vital Statistics, or when it is impracticable to file a death certificate, a local registrar may issue a burial or removal permit without a death certificate, if a responsible person assumes the obligation to file a satisfactory death certificate within ten days from the date upon which application was made for burial or removal permit; provided, that in no case shall a certificate be filed later than the fifth day of each month for such deaths occurring in the preceding month. When any such body is transported from outside the State into a registration district in Alabama for burial, the transit or removal permit issued in accordance with the law and health regulations of the place where the death occurred shall be accepted by the local registrar of the district into which such body has been transported for burial or other disposition, as a basis upon which he may issue a burial permit; and he shall note upon the face of the burial permit the fact that it is a body shipped in for interment, and shall give the actual place of death. Provided, however, that the State Board of Health shall have power to promulgate rules with reference to the removal of bodies of persons whose deaths occur on trains, boats, or other carriers engaged in the transportation of persons within this State. No local registrar shall receive any fee for the issuance of burial or removal permits. The local registrar shall file permanently in his office, as a local record, the permit for each burial or cremation.

Section 1070. REGISTRATION OF STILLBORN CHILDREN PRESCRIBED. A stillborn child shall be registered as a birth and also as a death; provided, that a certificate shall not be required for a child that has not advanced to the fifth month of uterogestation. The State Board of Health shall furnish a combined birth and death certificate form for the recording of stillbirths, to be used instead of separate birth and death certificates. The medical certificate of the cause of death shall be signed by the attending physician, if any, and shall state the cause of death as "still born", with the cause of the stillbirth, if known, whether

a premature birth, and, if born prematurely, the period of uterogestation in months, if known; and a burial or removal permit of the prescribed form shall be required. Midwives shall not sign certificates of death for stillborn children; but such cases, and stillbirths occurring without attendance of either physician or midwife, shall be treated as deaths without medical attendance as provided in Section 1072.

**Section 1072. REGISTRATION OF DEATHS OCCURRING WITHOUT MEDICAL ATTENDANCE PRESCRIBED.** In case of any death occurring without medical attendance, it shall be the duty of the undertaker, or other person to whose knowledge the death may come, to notify the local registrar of such death, and when so notified the local registrar shall, prior to the issuance of a burial permit, inform the County Health Officer, who shall immediately investigate and certify as to the cause of death; provided, that if the Health Officer has reason to believe that the death may have been due to an unlawful act or neglect, he shall then refer the case to the coroner or other proper officer for his investigation and certification. The coroner, or other proper officer whose duty it is to hold an inquest on the body of the deceased person and to make the certificate of death required for a burial permit, shall state in his certificate the name of the disease causing death, or if from external causes, the means of death; whether probably accidental, suicidal or homicidal; and shall, in any case, furnish such information as may be required by the State Registrar in order to properly classify the death. When there is no County Health Officer, and when there is no reason to believe the death to be due to an unlawful act or neglect, in such cases only, the local registrar is authorized to complete the certificate from the statement of relatives or other persons having adequate knowledge of the facts; provided, that when there is reason to believe the death due to an unlawful act or neglect, and there is no County Health Officer, the local registrar shall notify the coroner or other proper officer for his investigation and certification.

**Section 1076. DUTIES OF SEXTONS, AND OF UNDERTAKERS IN CERTAIN CIRCUMSTANCES, PRESCRIBED.** No person in charge of any premises on which interments are made shall inter or permit the interment of, or other disposition of, any human body, unless it is accompanied by a burial, removal, or transit permit, as herein provided. And such person shall endorse upon the said burial permit the date of interment, over his signature, and shall return all permits so endorsed to the local registrar of the registration district in which the place of interment is located within five days from the date of the interment, or within the time fixed by local ordinances. He shall keep a record of all bodies interred, or otherwise disposed of, on the premises under his charge, in each case stating the name of each deceased person, place of death, date of burial or disposal, and name and address of the undertaker; which record shall at all times be open to official inspection. The undertaker or person acting as such, when burying a body in a cemetery or burial ground having no

person in charge, shall sign the burial or removal permit, giving the date of burial, and shall write across the face of the permit the words "No person in charge," and file the burial or removal permit within five days with the registrar of the registration district in which the place of interment is located.

**Section 1077. REGISTRATION OF BIRTHS PRESCRIBED.** The birth of each child born in this State shall be registered as hereinafter provided. Within five days after the date of a birth there shall be filed with the local registrar of the registration district in which the birth occurred a certificate of such birth, which certificate shall be upon the form adopted by the State Board of Health, with a view to procuring a full and accurate report with respect to each item of information that may be required under the succeeding section. In each case where a physician, midwife, or person acting as midwife, was in attendance upon the birth, such physician, midwife, or person acting as midwife, shall file said certificate in accordance herewith. In each case where there was no physician or midwife in attendance upon the birth, the father or mother of the child, the householder or owner of the premises where the birth occurred, or the manager or superintendent of the public or private institution where the birth occurred, each in the order named, within five days after the date of such birth, shall report to the local registrar the fact of such birth. In such case and in case the physician, midwife, or other person reporting said birth is unable, by diligent inquiry, to obtain any item or items of information contemplated by the succeeding section, the local registrar shall secure from the person so reporting, or from any other person having the required knowledge, such information as will enable him to prepare the certificate of birth herein contemplated, and the person reporting the birth, or who may be interrogated in relation thereto, shall answer correctly and to the best of his knowledge all questions put to him by the local registrar, which may be calculated to elicit any information needed to make a complete record of the birth as contemplated by the succeeding section; and the informant as to any statement made in accordance herewith shall verify such statement by his signature when requested so to do by the local registrar. A receipt for a certificate filed shall be issued to any physician, midwife, or head of a household by the local registrar upon demand. The absence of a certificate of birth of any child from the files of the State Registrar shall be prima facie evidence that a certificate for said birth was not filed.

**Section 1078. FORM AND MANNER OF PREPARING BIRTH CERTIFICATES PRESCRIBED.** The certificate of births shall contain such information and in such forms as the State Board of Health may prescribe. The personal particulars called for shall be given, together with the name of the informant. If the child dies without a given name, the words "Died Unnamed" shall be entered in the space provided for the name. If the living child has not yet been named at the date of filing the certificate of birth, the space for the given



en name of the child shall be left blank, to be filled out subsequently by a supplemental report, as hereinafter provided in Section 1079. If the child is illegitimate, the name of the putative father shall not be entered without his consent, but the other particulars relating to the putative father may be entered if known, otherwise as "unknown." The certificate shall be signed by the attending physician or midwife with date of signature, and address; if there was no physician or midwife in attendance, then by the father or mother of the child, householder, owner of the premises, manager or superintendent of public or private institution where the birth occurred, or other competent person whose duty it shall be to notify the local registrar of such birth. The local registrar shall enter the exact date of filing of the certificate in his office, and the registered number of the birth attested by his official signature.

Section 1079. REGISTRATION OF NAME OF CHILD SUBSEQUENT TO FILING OF BIRTH CERTIFICATE PROVIDED FOR. When any certificate of birth of a living child is presented without the statement of the given name, then the local registrar shall make out and deliver to the parents of the child a special blank for the supplemental report of the given name of the child, which shall be filled out as directed, and returned to the local registrar as soon as the child shall have been named. The local registrar shall on the fifth day of each month in counties in which there is a County Health Department, and on the tenth of the month in all other counties, inclose in his regular monthly report to the State Registrar all such supplementary reports of given names received by him. The State Registrar shall enter on the original certificate the given name as supplied on the supplemental report.

Section 1082. PROVISION OF BLANKS, ISSUE OF INSTRUCTIONS, EXAMINATION OF CERTIFICATES, AND SECURING OF ADDITIONAL INFORMATION BY THE STATE REGISTRAR, TO COMPLETE THE RECORDS PRESCRIBED. The State Registrar shall, under the supervision of the State Board of Health, prepare, print, and supply to local registrars all blanks and forms used in registering, recording, and preserving the returns, or in otherwise carrying out the purposes of this Article, and shall prepare and issue such detailed instructions as may be required to procure the uniform observance of its provisions and the maintenance of a perfect system of registration; and no other blanks shall be used than those supplied by the State Registrar. He shall carefully examine the certificates received monthly from the local registrars, and if any such are incomplete or unsatisfactory he shall require such further information to be supplied as may be necessary to make the record complete and satisfactory, and all physicians, midwives, informants, undertakers, and all other persons having knowledge of the facts, shall supply, upon a form provided by the State Registrar, or upon the original certificate, such information as they may possess regarding any birth or death, upon demand of the State Registrar, in person, by mail, or through the local registrar; but no certificate of

birth or death, after its acceptance for registration by the local registrar, and no other record made in pursuance of this section, shall be altered or changed in any respect otherwise than by amendment properly dated, signed, and witnessed. The State Board of Health shall arrange, bind, and permanently preserve the certificates in a systematic manner, and shall prepare and maintain a comprehensive and continuous typewritten or printed index of all births and deaths registered; said index to be arranged alphabetically or by some equally satisfactory system; in the case of deaths by the name of the decedent; and in the case of births by the name of the father or if born out of wedlock, by the name of the mother.

Section 1085. DISTRIBUTION OF BLANKS, EXAMINATION OF CERTIFICATES, AND THE MAKING OF COPIES FOR COUNTY RECORDS BY LOCAL REGISTRARS PRESCRIBED. Each local registrar shall supply blank forms of certificates to such persons as require them. All certificates and permits shall be typed or written legibly, in durable black ink, and no certificate shall be held to be complete and correct that does not supply all of the items of information called for thereon, or satisfactorily account for their omission. The local registrar shall carefully examine each certificate of birth or death when presented for record, in order to ascertain whether or not it has been made out in accordance with the provisions of this Article and the instructions of the State Registrar, and whether the cause of death was an infectious, contagious, or communicable disease. If a certificate of birth is incomplete, he shall immediately notify the informant and require him to supply the missing items of information, if they can be obtained. If a certificate of death is incomplete or unsatisfactory, he shall call attention to the defects in the same, and shall withhold a burial or removal permit until such defects are corrected. In case the cause of death stated on a certificate of death is a disease held by the State Board of Health to be infectious, contagious or communicable, and dangerous to the public health, no permit for the removal or other disposition of the body shall be issued by the registrar, except under such conditions as may be prescribed by the State Board of Health. The State Registrar shall furnish all local registrars with a list of the diseases which are considered infectious, contagious, or communicable, and dangerous to public health, as decided by the State Board of Health; and when a certificate of a death caused by such a disease is presented to him the local registrar shall forthwith report the same to the County Health Officer or the County Quarantine Officer, on a form to be provided for that purpose by the State Registrar. The local registrar shall number consecutively the certificates of birth, stillbirth, and of death, in three separate series beginning with number one for the first birth, number one for the first stillbirth, and number one for the first death in each calendar year, and shall sign his name as local registrar in attest of the date of filing in his office. He shall also make a complete and accurate copy of each birth certificate, stillbirth certificate, and of each death certificate

registered by him, in a record book supplied by the State Registrar. When any such record book of births, stillbirths, or deaths is filed, the local registrar shall deliver the same to the Probate Judge of the county, and the said Judge shall cause such books to be properly labeled and indexed, so as to constitute permanent local records of births, stillbirths, and deaths. The registrar shall file permanently, in his office, the permit for each burial or cremation in his district, in such manner as may be directed by the State Board of Health. On the tenth day of each month the local registrar shall, except in registration districts located in a county having a County Health Department and the State Board of Health shall have otherwise ordered, transmit to the State Registrar all original certificates registered by him for the preceding month, and also any delayed certificates registered by him during the month. If no births, stillbirths, or deaths occurred in any month, the local registrar shall, on the tenth day of the following month, except in registration districts which are located in a county having a County Health Department and the State Board of Health shall have otherwise ordered, report that fact to the State Registrar on a card provided for that purpose. When the State Board of Health shall have so ordered, each local registrar shall transmit forthwith to the County Health Officer, as soon as copied, all original birth, stillbirth and death certificates which have been registered in such primary registration district. Each County Health Officer shall, on the tenth day of each month, transmit to the State Registrar all original certificates and reports received from local registrars in his county for the preceding month, together with any delayed certificates and reports received by him during the month.

Section 1092. NOTIFIABLE DISEASES LISTED. The following diseases and disabilities are hereby made and declared to be notifiable diseases, and occurrence of cases shall be reported as herein provided; Group A. Infectious diseases, viz., actinomycosis, anthrax, chancre, chickenpox, cholera (Asiatic, also cholera nostras when Asiatic cholera is present or its importation threatened), dengue, diphtheria, dysentery (amebic), dysentery (bacillary), epidemic influenza, fava, German measles, glanders, gonorrhea, granuloma venereum, leprosy, lethargic encephalitis, lymphogranuloma inguinale, malaria, measles, meningitis (epidemic cerebrospinal), meningitis (tuberculous), mumps, ophthalmia neonatorum (conjunctivitis of newborn infants), paragonimiasis (endemic hemoptysis), para-typhoid fever, plague, pneumonia (acute), poliomyelitis (acute infectious), rabies, Rocky Mountain spotted or tick fever, scarlet fever, septic sore throat, smallpox, syphilis, tetanus, trachoma, trichinosis, tuberculosis (all forms, the organ or part affected in each case to be specified), tularemia, typhoid fever, typhus fever, undulant fever, whooping cough, and yellow fever. Group B. Occupational diseases and injuries, viz., arsenic poisoning, brass poisoning, carbon monoxide poisoning, lead poisoning, mercury poisoning, natural gas poisoning, phosphorus poisoning, wood alcohol poisoning, naphtha poisoning, bisulphide of

carbon poisoning, dinitrobenzene poisoning, caisson disease (compressed air illness), any other disease or disability of the nature of the person's employment. Group C. Diseases due to diet deficiency, viz., pellagra, scurvy. Group D. Such other diseases as the State Board of Health may from time to time in its discretion declare to be notifiable diseases.

Section 1093. PHYSICIANS REQUIRED TO REPORT CASES OF NOTIFIABLE DISEASES: PROCEDURE IN OUTBREAKS OF SMALLPOX, TYPHOID AND SCARLET FEVER, DIPHTHERIA, AND SEPTIC SORE THROAT PRESCRIBED. Each physician practicing in the State of Alabama who treats or examines any person having, or suspected of having, any notifiable disease, shall immediately report such cases of notifiable disease in the most expeditious manner possible, whether by telephone, telegraph, or special messenger, and within five days thereafter in writing, to the County Health Officer. Said written report shall be upon such forms, and shall contain such matter, as may be provided for from time to time by the rules and regulations of the State Board of Health. Whenever the disease is smallpox, or suspected of being smallpox, it shall be unlawful for any person who has been exposed to infection therefrom and who has not been successfully vaccinated within five years to appear in any public place or any place other than his own home until after he is successfully vaccinated, and it shall be the duty of the County Health Officer to isolate in their own homes all persons who have been exposed to infection from another person infected with smallpox until they have been successfully vaccinated. In the event of an outbreak in any community it shall be unlawful for any person who has not been successfully vaccinated to be found in any public place or in any place other than his own home, and the State Health Officer shall have such person isolated and confined in his own home until he is successfully vaccinated. If the disease is, or is suspected to be, typhoid fever, scarlet fever, diphtheria or septic sore throat, the report shall also show whether the patient has been, or any member of the household in which the patient resides, is, engaged or employed in the handling of milk for sale or preliminary to sale.

Section 1096. TEACHERS REQUIRED TO REPORT SUSPECTED CASES OF COMMUNICABLE DISEASE. Teachers or other person employed in, or in charge of public, or private schools shall report immediately to the County Health Officer or State Health Officer, such known or suspected cases of notifiable disease in persons attending or employed in their respective schools.

Section 1103. VENEREAL DISEASES DECLARED COMMUNICABLE, AND DANGEROUS TO THE PUBLIC HEALTH. Syphilis, gonorrhea, chancre, lymphogranuloma inguinale, and granuloma venereum, herein designated venereal diseases, are recognized and declared to be contagious, infectious, communicable diseases, and dangerous to the public health.

Section 1104. PHYSICIANS AND OTHERS REQUIRED TO REPORT CASES OF VENERE-



AL DISEASE TO THE COUNTY HEALTH OFFICER. Any physician who makes a diagnosis in, or treats a case of, syphilis, gonorrhea, chancroid, lymphogranuloma inguinale, or granuloma venereum, and the superintendent or manager of a hospital or dispensary or penal or other institution in which there is a case of venereal disease, shall report such case immediately in writing to the County Health Officer, stating the physician's or institution's case number, the age, color, sex, and occupation of such diseased person, the date, as near as it can be arrived at, of the onset of the disease, and the probable source of infection, and the report shall be enclosed in a sealed envelope and sent to the County Health Officer. The name and address of such diseased person shall also be furnished to the Health Officer, as hereinafter specifically required, but not otherwise.

Section 1105. PHYSICIANS REQUIRED TO INSTRUCT VENEREAL DISEASE PATIENTS IN THE PREVENTION OF THE SPREAD. AND IN THE NECESSITY FOR CONTINUED TREATMENT UNTIL CURED. Every physician who examines or treats a person having syphilis, gonorrhea, chancroid, lymphogranuloma inguinale, or granuloma venereum shall instruct such person in measures for preventing the spread of such disease, and the necessity for treatment until cured.

Section 1108. PHYSICIANS REQUIRED TO NOTIFY OTHER PHYSICIANS OF TREATMENTS GIVEN WHEN VENEREAL DISEASE PATIENTS TRANSFER. Whenever a physician treats or examines a case of venereal disease he shall inquire of and ascertain from the diseased person whether such person has theretofore consulted with or been treated by any other physician, and if so, to ascertain the name and address of the physician last theretofore consulted. The diseased person shall furnish this information. The physician, where the diseased person has theretofore received treatment, shall immediately notify by mail the physician theretofore treating such person of the change of physician, such notification to be made upon a form furnished for that purpose by the State Board of Health. Should the physician previously consulted fail to receive such notice within fourteen days after the last appearance or treatment administered by him to such venereally diseased person, such physician shall report to the County Health Officer the name and address of such venereally diseased person.

Section 1114. SUPPRESSION OF PROSTITUTION DECLARED A PUBLIC HEALTH MEASURE, AND PROSTITUTION DECLARED TO BE PRESUMPTIVE EVIDENCE OF VENEREAL DISEASE INFECTION. Prostitution is hereby declared to be a prolific source of syphilis, gonorrhea, chancroid, lymphogranuloma inguinale, and granuloma venereum, and the suppression of prostitution is declared to be a public health measure. All Health Officers and Quarantine Officers shall co-operate with the proper officials whose duty it is to enforce laws directed against prostitution, and otherwise to use every proper means for the suppression of prostitution. It is further declared that prostitution is presumptive evidence of vene-

real disease infection; and whenever or wherever apprehended, prostitutes and persons whom the County Health Officer has probable cause to believe to be guilty of habitual fornication shall be examined for said infection by the Health Officer or his assistant before being released from custody.

Section 1118. BARBER, MANICURE, AND BEAUTY SHOP EQUIPMENT PRESCRIBED. The owner and manager of every barber, manicure, and beauty shop shall provide for regular use in the said shop hot and cold water connections, and sewer connections complying with the ordinances of the municipalities in which they are situated. Provided: That in communities and localities in which public water supplies under pressure, and public sewers are not available, an adequate supply of hot water, and waste disposal satisfactory to the County Health Officer, shall be provided.

Section 1119. SERVICE BY PERSONS SUFFERING FROM SKIN OR VENEREAL DISEASE PROHIBITED. No operator of a barber, manicure, or beauty shop shall permit any person suffering from a communicable skin disease or venereal disease to serve patrons in the said shop. Barbering, manicuring, or beauty culture by any person suffering from a communicable skin disease or venereal disease is hereby prohibited.

Section 1120. BARBER, MANICURE, AND BEAUTY SHOP MANAGERS REQUIRED TO KEEP SHOPS AND ALL EQUIPMENT CLEAN. Every manager of a barber, manicure, or beauty shop shall keep the said shop and all furniture, tools, appliances, and other equipment used therein at all times in a clean and hygienic condition. The use of soiled, greasy, or visibly unclean tools, appliances, combs, brushes, etc., or towels which have not been laundered since last used, is hereby prohibited.

Section 1124. CLEAN HANDS REQUIRED. Every barber, manicurist, and cosmetologist shall cleanse his or her hands thoroughly before serving each patron.

Section 1125. USE OF CERTAIN EQUIPMENT PROHIBITED. The use of alum or other caustic material, except in powdered or liquid form, to stop the flow of blood, and the use of a powder puff or brush, a sponge, or a finger bowl, except it be designed and used for single service, are hereby prohibited.

Section 1127. RENEWAL OF HEADREST COVER PRESCRIBED. The headrest of every barber or beauty shop chair shall be covered with a clean towel or clean new paper before any patron is served.

Section 1128. SHAVING, MASSAGING, OR TREATMENT OF INFLAMED OR INFECTED SKIN SURFACES PROHIBITED. No barber, manicurist, or cosmetologist shall serve any person whose skin is inflamed, scabby, or contains pus, unless tools, equipment, etc., for his or her individual use are provided.

Section 1129. TREATMENT OF ANY SKIN DISEASE BY A BARBER, MANICURIST, OR COSMETOLOGIST PROHIBITED. The treatment

of any skin disease or infection by a barber, manicurist or cosmetologist is hereby prohibited.

Section 1130. **USE OF BARBER SHOP OR BEAUTY PARLOR AS A DORMITORY PROHIBITED.** No person shall use a barber shop or beauty parlor as a dormitory, nor shall any operator of a barber shop or beauty parlor permit said establishment to be so used.

Section 1131. **POSTING OF LAW PRESCRIBED.** The operator of every barber shop and beauty parlor shall keep a copy of the sections of this chapter pertaining to barber shops and beauty parlors, to be furnished by the State Health Department, posted in a conspicuous place in said establishment, for the information of patrons and the guidance of persons employed therein.

Section 1132. **BARBER, MANICURE, AND BEAUTY SHOPS DEFINED.** Any place or establishment in which any one or more of the following named services is regularly performed, for pay, shall be subject to the provisions of the foregoing sections: shaving; beard trimming; cutting, dressing, arranging, curling, waving, shampooing, singeing, bleaching, or dyeing of the hair; application of massages, cosmetics, antiseptics, tonics, lotions, or creams to the skin or scalp; or manicuring, polishing, tinting, or buffing the nails. Places in which such services are performed for pay shall, for purposes of enforcement of this and the foregoing sections, be known as barber, manicure, or beauty shops.

Section 1133. **USE OF A COMMON DRINKING CUP OR A COMMON TOWEL, IN CERTAIN PLACES, PROHIBITED.** It shall be unlawful to provide for use, or permit the use of, a common drinking cup or a common towel in any hotel, restaurant, railroad car, railroad station, or other place frequented by the public.

Section 1139. **PROCEDURE FOR THE REMOVAL OF INFECTED PERSONS NOT IN THEIR OWN HOMES PRESCRIBED.** Whenever complaint shall be made in writing to the Health Officer of a county that a person, not at his own home, is afflicted with any of the diseases named in Section 1092 of this Code, such Health Officer shall thoroughly and promptly investigate said complaint. If, upon investigation said Health Officer is of the opinion that said complaint is well founded, he shall, if his opinion be concurred in by at least one member of the County Board of Health, cause such person to be removed to such place as may have been provided for such cases in the county, city, or town in which such person is found; or if there is no such place provided for such cases, then, to such place as said Health Officer may deem suitable, subject to the approval of the authorities of the county, city, or town, as the case may be. The removal of said person shall be at the expense of said person; or in case the person removed is a minor, then at the expense of his parents or guardian; or if the person be indigent, then at the expense of the town, city or county, as the case may be.

Section 1140. **HEALTH OFFICER AUTHORIZED TO ENTER INFECTED HOUSES FOR DISINFECTION.** Whenever a house or part of a

house is believed or known to have become infected by any of the diseases enumerated in Section 1092 of this Code, the Health Officer of the county may enter said house or part of house, or may authorize other persons to enter said house or part of house, one or both, for the purpose of disinfecting it. The disinfection shall be conducted with as little inconvenience to the owner or occupant and with as little damage to the house and to the furniture therein, as is compatible with thoroughness of disinfection.

Section 1143. **NOTIFICATION OF HEALTH OFFICER OF VACATION OF PREMISES BY TUBERCULOUS PATIENT, AND RENOVATION OR DISINFECTION OF SAME BEFORE OCCUPIED, PRESCRIBED.** In case of the vacation of any apartment, building, or premises by death from tuberculosis or by removal therefrom of a person or persons sick with tuberculosis, the person or physician in charge shall notify the County Health Officer of said removal within twenty-four hours thereafter, and such apartments or premises so vacated shall not again be occupied until renovated and disinfected as herein provided.

Section 1144. **PREMISES VACATED BY TUBERCULOUS PATIENTS REQUIRED TO BE DISINFECTED.** In case of the vacation of any apartments, buildings, or premises, as set forth in the preceding section, the County Health Officer, on receiving the notice above required, shall immediately visit said premises, and shall order and direct that the premises or apartments, and all infected articles therein, be properly and suitably disinfected. In case there shall be no remaining occupants in such premises or apartments, and same shall be vacant, then the County Health Officer shall cause a notice in writing to be served upon the owner, or agent of the owner, of such premises or apartments, ordering the renovation and disinfection of such premises or apartments, under the direction of and in conformity with the regulations of the County Board of Health.

Section 1145. **NOTICE REQUIRED TO BE POSTED ON PREMISES IF DISINFECTION ORDERS ARE DISOBEYED.** In case any orders or directions, of the County Health Officer requiring the disinfection of any articles, premises, or apartments, as hereinbefore provided, shall not be complied with within thirty-six hours after such orders or directions shall be given, then the County Health Officer shall cause a placard in words and form as follows, to be placed upon the door of the infected apartment, or premises, to-wit: "Notice. Tuberculosis is a communicable disease. These apartments have been occupied by a tuberculous person and may be infected. They must not be occupied until the order of the Health Officer directing their renovation and disinfection has been complied with." This notice must not be removed under a penalty of law, except by the County Health Officer, or an authorized police officer.

Section 1148. **PROMULGATION OF RULES FOR THE TRANSPORTATION OF DEAD BODIES AUTHORIZED.** The State Board of Health shall prescribe the rules and regulations under which the bodies of deceased persons may be brought into, or transported through the State;



and also the rules and regulations under which such bodies may be transported from one point to another point in the same county, or from one county to another in this State; but the said State Board of Health may, in its discretion, forbid the conveyance of the bodies of persons who have died of infectious, contagious, or communicable diseases into or through this State, or from one county to another in this State. This section shall not be so construed as to prevent County Boards of Health from regulating the transportation of the bodies of deceased persons within their respective county limits.

Section 1158. TREATMENT OF INDIGENT PERSONS BITTEN BY RABID ANIMALS PROVIDED FOR. Any bona fide resident of the State of Alabama, who, or any of whose dependents, has been bitten or otherwise exposed to a rabid animal, and who is financially unable to bear the expense of the administration of the necessary rabies treatment, may have treatment administered by his physician by conforming to the following conditions: He shall furnish to the Circuit Clerk of the County in which he resides good and sufficient proof that he has insufficient income to enable him to pay for the administration of rabies treatment; whereupon, if the Circuit Clerk is satisfied of the indigence of the said applicant, he shall execute an affidavit to that effect, and set up a voucher to cover the cost of treatment, which shall be in accordance with a sum to be fixed from time to time by the State Committee of Public Health. When such voucher and affidavit have been filed with the State Department of Health, and approved by the State Health Officer and the State Comptroller, payment shall be made from any monies remaining in the Pasteur Fund of the State Treasury, upon a warrant drawn by the State Comptroller.

Section 1199. COUNTY BOARD OF HEALTH REQUIRED TO CONSIDER APPLICATION FOR A PERMIT, AND TO REACH A DECISION. Whenever a County Board of Health receives an application, in accordance with the preceding section, for a permit to locate, establish, or build a hospital, infirmary, or institution of any kind for the care and treatment of sick and wounded persons, said County Board of Health shall promptly and carefully examine the proposed location or locations, considering suitability and environment in all respects; whereupon, the County Board of Health shall, after permitting a full discussion of the matter, either grant or deny the application, giving the person, firm, or corporation interested, written notice of its conclusion.

Section 1205. STATE HEALTH OFFICER, OR HIS REPRESENTATIVE, AUTHORIZED TO INVESTIGATE THE NECESSITY FOR QUARANTINE. The State Health Officer, or any representative designated by him, may go into any place in this State for the purpose of making such investigations as shall determine the necessity for quarantine. Quarantine may be established, pending such investigation, or upon authentic information of the existence of a quarantinable disease at any place from which such disease is likely to invade the State, or any portion thereof.

Section 1219. ESCAPES FROM QUARANTINE. Should a person who has been legally placed in detention by a County Health Officer or Quarantine Officer attempt to make his escape, such person may be forcibly detained; or, should such person make his escape, complaint, on oath, may be made before the Judge of Probate or a Justice of the Peace by the County Health Officer or quarantine officer, whereupon, such Judge of Probate, or Justice of the Peace, shall issue his warrant authorizing a Sheriff, bonded Constable, or other lawful officer to arrest such person and return him to detention.

Section 4377. PENALTY FOR TREATING A CASE OF VENEREAL DISEASE WITHOUT A LICENSE, OR REFILLING A PRESCRIPTION FOR THE TREATMENT OF VENEREAL DISEASE PRESCRIBED. Any person who shall treat or prescribe for any person having syphilis, gonorrhea, chancroid, lymphogranuloma inguinale, or granuloma venereum, except a physician holding a certificate of qualification from the Alabama State Board of Medical Examiners, issued under pre-existing statute or under any statute that may hereafter be enacted governing the issuance of certificates to practice medicine in this State, or any druggist who shall refill a prescription for such disease, shall be guilty of a misdemeanor, and upon conviction shall be fined not less than ten dollars nor more than one hundred dollars.

Section 4464. HOTEL DEFINED. For the purpose of interpreting and enforcing this Chapter, the term "hotel" shall be construed to mean and include any place where sleeping or eating accommodations, or both, are advertised to be available to transients, whether such establishment be known or held to be a hotel, inn, tavern, resort, tourist home, tourist camp, apartment, club, or by other like term, and regardless of the number of rooms, suites, or cabins available. Provided, however, that this term shall not be construed to include apartments, clubs, boarding houses, rooming houses, or portions thereof, where single night accommodations are not advertised.

Section 4465. DUTIES OF HOTEL OPERATORS PRESCRIBED. Every owner, manager, or operator of a hotel shall maintain the physical and sanitary condition of the structure, its equipment, water supply, and human waste disposal, and shall conduct the operations thereof, in such manner as to render services and accommodations to travelers in compliance with rules and regulations governing hotels and hotel operation adopted by the State Board of Health.

Section 4466. STATE HOTEL INSPECTOR EMPOWERED TO CLOSE ANY HOTEL VIOLATING ANY PROVISION OF THE STATE BOARD OF HEALTH REGULATIONS, IF THE PUBLIC HEALTH IS ENDANGERED. The State Hotel Inspector, or any of his authorized representatives, when acting under his direction, may close any hotel if the owner, manager, or operator thereof has been found guilty of flagrant or continued violation of the State Board of Health rules and regulations governing the operation of hotels; and in such event it shall be his duty to take such

action. In case of such closure, it shall be the duty of the Sheriff of the county to enforce said closure until the closing order is revoked in writing.

Section 4468. **ISSUE OF CERTIFICATES OF INSPECTION TO HOTELS PRESCRIBED.** Upon inspecting a hotel, the inspector shall report the condition thereof to the State Hotel Inspector, together with its sanitary score or rating, whereupon, if the score or rating justifies, the State Hotel Inspector shall issue to the operator of the said hotel a certificate of inspection, showing the sanitary score or rating. Said certificate of inspection shall be kept prominently displayed in the hotel for the information of patrons.

Section 4469. **PENALTY FOR THE FAILURE OF A HOTEL KEEPER TO COMPLY WITH THE PROVISIONS OF THIS CHAPTER PRESCRIBED.** The State Hotel Inspector, upon ascertaining by inspection or otherwise, that any hotel is being operated contrary to the rules and regulations of the State Board of Health, shall notify the owner, manager, agents, or person in charge of such hotel, in writing, in what respect it fails to comply with said regulations, and require such person within a reasonable time, to be fixed by the said State Hotel Inspector, to do or cause to be done, the things necessary to make it comply with said regulations, whereupon, such owner, manager, agent, or person in charge of such hotel shall forthwith comply with such requirements. Any owner, manager, or person in charge of a hotel, who shall wilfully fail or neglect to comply with any of the provisions of said rules and regulations of the State Board of Health, after notice as aforesaid, shall be guilty of a misdemeanor, and upon conviction thereof, be fined not less than ten dollars, nor more than fifty dollars, and every day that such hotel is operated in violation of said rules and regulations, shall constitute a separate offense.

Section 4470. **STATE HEALTH OFFICER CONSTITUTED EX-OFFICIO STATE HOTEL INSPECTOR.** The State Health Officer is ex-officio State Hotel Inspector, and the inspectors of the State Board of Health, or that may hereafter be of the State Board of Health, are ex-officio assistant hotel inspectors, and such assistants shall be in the inspection of hotels, as provided for in this chapter, under the exclusive direction and supervision of the State Hotel Inspector.

Section 4472. **HOTEL INSPECTOR VESTED WITH POLICE POWER.** The State Hotel Inspector and his assistants have police power to enter any hotel at reasonable hours, to determine whether the provisions of the rules and regulations of the State Board of Health are being complied with.

Section 4473. **PENALTY FOR OBSTRUCTING OR HINDERING A HOTEL INSPECTOR PRESCRIBED.** Any owner, manager, agent, or person in charge of a hotel, who shall wilfully obstruct or hinder an inspector in the proper discharge of his duties under this chapter, shall be guilty of a misdemeanor, and upon conviction thereof, shall be fined not less than ten dollars nor more than fifty dollars.

Section 4477. **FORMULATION OF REGULATIONS BY STATE BOARD OF HEALTH PRESCRIBED.** The State Committee of Public Health shall make and promulgate reasonable rules and regulations for the purpose of carrying this chapter into effect.

Section 4478. **THIS CHAPTER DECLARED TO BE PART OF THE HEALTH LAWS.** This Chapter shall operate as, or as a part of, or in conjunction with, any rules and regulations affecting hotels, provided and promulgated by the State Board of Health for maintaining and protecting the public health.

Approved September 13, 1935.

No. 334)

(S. 308—Kelly

#### AN ACT

To provide for the expenditure of funds now or hereafter made available for the conduct of public health work in this State; to provide for the election and compensation of the State Health Officer, and to fix his term of office and to provide for the manner of determining compensation of employees of the State Health Department.

*Be it enacted by the Legislature of Alabama:*

Section 1. All funds or appropriations now or hereafter made available for the preservation, furtherance, or maintenance of public health in this State shall be expended in accordance with an annual budget prepared by the State Health Officer with the approval of the State Board of Health for the purposes enumerated in Section 1159 of the Code of Alabama of 1923 and for such other purposes deemed essential and necessary by the State Board of Health for the protection of the public health of the State, provided however that the total expenditures provided for in said budget shall not exceed the total funds or appropriations made available for public health work during that year. A copy of said budget shall be filed annually in the office of the State Comptroller.

Section 2. The State Health Officer shall be elected by the State Board of Health and shall hold office for a term of five years and until his successor has been elected and has qualified. His compensation during said term of office shall be fixed by the State Board of Health, provided that the salary shall remain as fixed by the Legislature of 1933 until such time as salaries of other departmental heads have been adjusted; and provided further that it shall not then exceed the amount paid the Chief Justice of the Supreme Court.

Section 3. The compensation of all employees, agents or subordinate personnel of the State Health Department shall be determined by the State Health Officer with the approval of the State Board of Health.

Section 4. That all laws and parts of laws, general, special or private, in conflict with the terms and provisions of this Act, are hereby repealed, and all existing laws or parts of laws applicable to the departments and agencies of the State generally and to the State Board of Health in conflict with the terms and provisions of this Act are hereby repealed, in so far as they are applicable to the State Board of Health.



## Miscellany

### DO YOU KNOW?

(A release of the Medical Society of the State of New York)

Children's teeth are improved by certain foods. Growing teeth require calcium and phosphorus, while certain vitamins aid in the assimilation of these minerals. Among the foods recommended are: milk, eggs, dairy products, whole wheat cereals, meat and fish. Vitamin A is found in cod liver oil, butter, milk, cheese, carrots and spinach; Vitamin C in oranges, lemons, tomatoes, grapefruit; Vitamin D in egg yolk and cod liver oil.

Value of the indestructible part of the human body—the bone ash—is less than \$1 at prevailing market prices.

Mirrors made of polished slate have been unearthed at Cook Inlet, Alaska, by Frederica de Laguna, a young woman archaeologist of the University of Pennsylvania.

Weather affects the length of time children sleep. Naps are longer on rainy days. Boys are likely to sleep longer than girls. The first day of a severe change in the weather, the length of sleep drops markedly.

More rain, more rabbits. So says Dr. Charles T. Voorhies of the University of Arizona, who found that long-eared jack-rabbits on the plateaus of the southwest have litters which contain more young in rainy weather than those born during the dry season.

Corn is affected with diabetes—plants form sugar that they cannot use—to an extent to damage them seriously. Prof. William H. Eyester of Bucknell University, New Orleans, finds that the disease is hereditary. Sugar accumulates in the leaves until they burst, killing the plant. But if kept in the dark, the condition is not developed.

Cabbage, onions and celery tend to lose their minerals when cooked and are best eaten raw.

Infantile paralysis begins much like an acute cold, with fever, headache, vomiting, congestion and night sweating, to be followed in many cases by weakness of muscles. The child should be put to bed immediately. Extensive experiments are going on with serum for this disease, and scientists are not yet sufficiently sure of results to justify widespread use. From six to eight weeks after the acute condition has passed, some power will return to the muscles; it is then that muscle training and massage are begun.

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## For 1936: a new outlook on life

**T**his is a message to people who have been turning their backs on a very good friend the whole year long.

That friend is a *symptom*—some sign of disturbance within your body, perhaps a pain, or some other vague warning, that has been trying to say to you, "There's something wrong. May be trouble ahead. Do something about it."

Why carry the mistakes of the old year over into the new? Why let the neglect of the past throw a shadow over your hopes, and plans, and resolutions for the future? Before the new year dawns, do something about that warning. Do the intelligent thing—see your doctor.

He is the one person who can say whether your trouble is a trivial one—or whether it may, if left uncurbed, seriously affect your success and happiness in the years to come.

Perhaps these past several disturbing years have drawn your nerves taut, or lowered your general resistance.

Perhaps the years have contributed too generously to your weight, thus putting an unfair burden upon your heart. Or perhaps he'll find some functional disorder which is capable of reaching serious proportions if neglected. Let your doctor decide what ought to be done.

And if he should find only some minor ailment, which will yield

quickly to treatment, you'll have the thrill of getting a good bill of health from the one person who can give it. What a start for a bright new year—to be able to walk from your doctor's office, head high, unafraid, to face 1936 with the invigorating knowledge that you have the physical equipment with which to fight for the things in life you want most!

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# THE JOURNAL

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### DENTISTRY IN ITS RELATIONSHIP TO MEDICINE AND PUBLIC HEALTH\*

By

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Montgomery, Alabama

Since life began and human beings were created, the story of man's achievement has never failed to fascinate. Generations have come and gone but there constantly arise others to take up the threads of history and weave the past and the present into one continuous pattern.

Although there have been individuals who have dedicated themselves exclusively to the cure of dental maladies or to repairing the losses of the dental structures, it is not to be denied that up to the beginning of the eighteenth century dentistry was considered one with medicine and surgery in general. It perhaps is well said that of all the learned professions the practice of medicine is the most ancient and the most respected, dating back to at least 2200 B. C. in Babylon. The lowly follower of Aesculapius, Hippocrates, laid the foundation of scientific medicine in Greece about 400 B. C. We had it first practiced by Herodotus 500 B. C., though the Egyptians and Hindus replaced teeth in a crude manner many years before. Dentistry began as a specialty of medicine and separated from it about one hundred years ago, largely because of the unwillingness of medicine at that time to recognise any form of specialisation. Dentistry, thus isolated, was forced to develop alone. It recruited its own faculties, at first largely from medicine and later almost entirely from graduates of dentistry, and organised an independent educational program. It was, however, not un-

til toward the end of the seventeenth century and the beginning of the eighteenth century that dentistry attained a high degree of development, entitling it to be considered a special branch of the medical art. The definite separation between the science and art of dentistry and of general surgery was effected by the celebrated French dentist, Pierre Fauchard, who founded modern scientific dentistry. Fauchard, like Pasteur, and all other great discoverers, had to combat against envy and jealousy, often finding it necessary to give warning that he still continued in the practice of dentistry. The secrecy and mystery surrounding the works of these predecessors no doubt account for the few publications prior to this time on this and other important branches of medicine. Thus, today, we are not so far removed from the ever disloyal, ignoble and shameless practices of persons without proper training and principles, causing the honourable and ethical in our professions to keep ever an alert ear for the rumblings of discord which they create. To control such practices we learn from Fauchard that as early as 1700 the people began to appreciate the abuses and haphazard fashion of practicing dentistry, forcing those desiring to practice this profession to undergo an examination. Perhaps the physician might well be held responsible for this state of affairs, inasmuch as the most celebrated of the leaders in the medical profession abandoned this branch of the art.

During the intervening years the leaders of the art of dentistry continued their labours and studies, culminating in the dawning of dental science in Great Britain. When England began to settle America, dentistry was represented here by both the artist and the unskilled or charlatan. Thus we find the first practicing of dentistry in the New England States, particularly in

\*Delivered before the Sixth District Dental Society, Tuscaloosa, August 29, 1935.

Boston. History tells us that Paul Revere was not only a good horseman but a well instructed and practicing dentist. From the East drifted members of the profession toward and into the South, the grim reaper taking some of these by means of yellow and malaria fevers, as did it from the mother profession when these diseases were so rampant along the waterfronts of our Southland.

The first federal legislation dealing with the dental profession in this country was enacted at the beginning of the twentieth century, and later amended, providing commissions for dentists in the Army, Navy, United States Public Health Service, Veteran and Indian Services, as had previously been provided for the physicians.

As pertains to Alabama the first act governing dentistry was passed December 31, 1841, providing for examination and licensing of applicants to practice dentistry by medical boards, which boards permitted the membership of a dentist. We find that examination of dentists by medical boards continued in force until 1881, when the Board of Dental Examiners was created, the Board consisting of five members, graduates or practicing dentists. Careful search reveals the earliest date for the organization of the Dental Association in 1869, though members of the profession believe it might have had inception at an earlier date. Due to the epidemic of yellow fever in 1875 annual meetings were discontinued and re-organization effected in 1880.

The important place which oral hygiene and diseases of the dental structures occupy in any sound, broad health program and the close relationship which exists between oral conditions and other functions of the body, point to the wisdom, if not, indeed, the necessity of closely correlating medical and dental practice and education.

Dentistry developed rapidly along mechanical and highly specialistic lines and, regretfully, in a measure gradually drifted from its earlier moorings to the biologic and medical sciences. As a consequence, the less exacting requirements for licensure and education exacted of the dental student and practitioner attracted a body of students with a minimum of general and scientific education which, in turn, led to a

further accentuation of the hiatus between medicine and dentistry.

Within our own generation, the two professions have seen and are appreciating the necessity of closer co-operation in both practice and education. The training for dentistry, like that for medicine, seems fast headed toward university discipline and standards. Hospitals, clinics, and public health activities are embracing dentistry as an essential part of an adequate health program. In many places the instruction of dental students in the basic sciences of anatomy, physiology, bacteriology, and pathology is conducted by the medical faculties. In several instances the requirements for admission are almost, if not quite, as high as those for the medical schools. Dentistry unquestionably has its roots in the same biological soil that now nourishes and has always nourished medicine. Consequently, it should have the same character and quality of fundamental training in the sciences, adapted, to be sure, to its own peculiar and likely more limited needs and problems.

Universities responsible for education in these two closely related fields of health work are moving logically in the direction of co-ordinating their educational programs. The differences of opinion at the moment are largely over the form which this correlation should assume. A few leaders believe that dentistry should be made a graduate specialty of medicine, such as surgery, requiring all dentists or "stomatologists" to complete a full medical course before proceeding to the technical and special training in the field. It is doubtful, however, whether the requirements of practice or the needs of professional education require such a long training.

Another suggestion is that dentistry should be developed as a specialty of medicine on the base of the two years of medical science now provided in a few of the leading schools of dentistry. This base is too narrow for the erection of a *specialty in medicine*. Many of the aspects of medicine of greatest value in the diagnosis and treatment of diseases and of abnormalities of the mouth are in the clinical courses, which are not presented in the earlier part of the medical course in this country. Physicians



and dentists the world over are now wholeheartedly co-operating with each other in the diagnosis of many vague and intractable cases. Once awakened to the actual and intimate relationship of dentistry to medicine, the leading members of both professions have spent both time and money in research, even traveling to the far reaches of the earth that they might learn and carry to their less fortunate members their findings.

Therefore, I am of the opinion that it is logical that dentistry should be developed under medical education, but with a form of training harmoniously adjusted to the actual and peculiar needs of this medical offshoot. Such a training should be qualitatively as high as that in medicine but somewhat different in content. It should provide the student of dentistry with an intelligent and comprehensive understanding of the relationships of oral conditions to other fields of clinical medicine, and then sequentially lead to a distinctive degree and licensure. Such an organisation would be consistent with university principles which no longer recognise the artificial separation of fields of knowledge, and would go far toward establishing a highly desirable and valuable correlation of the professional training of these two closely related fields of practice.

Thus much for the educational future of the dental profession and for the need, as I see it, of a closer integration of all university educational facilities in order to be able to serve, to the best advantage, not only the profession of medicine but that of dentistry as well.

Let us now briefly consider a few of the actual and practical problems which, through a closer integration of the two professions, might be better solved and, as a result, humanity be better served.

Unlike the peoples of certain islands of the South Seas and a section of the Himalayan Mountains, where decay of teeth is unknown, in the other parts of the world tooth decay has often been called a disease of civilisation; yet, it seems somewhat paradoxical that civilisation, which has led to the conquest of so many other diseases, should itself be the cause of one.

One of the boasts of today is of the progress that we have made in the conquest of

disease. There is not a single instructor in elementary biology in any of our public schools who does not, several times in the year, run through the gamut of recitation, "pointing with pride," to the fact that modern medical science has overcome most of the plagues that beset our forefathers. To count them off, there are smallpox, cholera, typhoid, diphtheria, yellow fever, malaria, tetanus and a host of other diseases which plagued and harassed our ancestors and which have become to us little more than diseases of passing significance. These, in truth, modern science has largely overcome.

The story is an impressive one, but the din of its repetition dulls our appreciation of the nature of the forces that operated to achieve this conquest of disease, and of what further bearing these forces may have on the medical problems of today. While it is proper to take pride in these great past achievements in medicine, we must not assume a slumbrous or lackadaisical frame of mind and complacently rest on our oars.

In other words, though we may look with satisfaction on the achievements of medical science in the conquest of disease in time past, we must also critically question whether the forces that operated in our past achievements will serve us as effectively today. We must seek for new ways, we must change our tune and appreciate the fact that the ills of today call for new remedies; that the methods of yesterday—those that proved so effective in the conquest of smallpox, diphtheria and typhoid—will not serve in overcoming heart disease, the psychopathies or the oral diseases.

What were these forces that operated yesterday in the conquest of disease? As has been forcefully stated by Dr. Iago Galdston, they were individual genius, enlightened government and advancing economic conditions. It was individual genius, like that of Jenner, of Pasteur, and of Lister, that gave us smallpox vaccination, diphtheria antitoxin; it was enlightened government that enforced pasteurisation, communal hygiene and sanitation; it was an advance in economic conditions that gave us a multitude of instruments with which to fight disease, and which indirectly helped to alter, to modify and to improve our then mode of living. The growth of cities made safe water supplies an absolute

necessity, and compelled us to handle human waste effectively. Growing industry supplied us with meats and breads, with fish and fruits which are free from contamination and void of noxious agents.

But now, being largely freed from typhoid, from cholera, from yellow fever, from smallpox, etc., our attention must be directed towards effort at mastery of other medical ills besetting mankind today. Those outstanding include cancer, heart disease, diabetes and the pneumonias, diseases of the kidneys and tuberculosis. These now constitute the leading causes of mortality, and to these of course must be added psychopathies—those illnesses of the mind and spirit which, though not so important as a cause of death, are of the utmost importance to communal and family life, affecting as they do so large a percentage of the population, and laying so heavy a burden, financial and otherwise, upon the rest of the community.

In facing these problems, can we hope that individual genius, enlightened government, advancing economic conditions will achieve as much as they did formerly? There is ever room and need in the world for the contributions of individual genius, of enlightened government and of improved economic conditions. But the effectiveness of these forces follows what in the economic world, Dr. Galdston styles the "law of diminishing returns." Those diseases which could be eradicated and controlled through discoveries by genius, followed by the legislation of enlightened government and by improved economic conditions have already largely been so affected.

It is now difficult to realise that we cannot expect a Jenner to give us an effective vaccine for every pathologic entity; that not every disease condition can be controlled by legislation; that not every disease may be overcome by better housing, better workshop sanitation and by a more liberal supply of food, clothing, shelter, recreation, etc. Who could give us a vaccine effective against the various psychoses?

The diseases prominent today must be attacked in a new manner and by means other than those so effectively employed against the ancient plagues. These newer means are in the nature of personal preventive medicine. As stated by Dr. Gald-

ston, we might view personal preventive medicine as presenting three phases of practice. First, there are those specific preventive measures with which we are all acquainted and which we see so effectively applied in the younger age groups; smallpox vaccination, toxoid immunisation, the prophylactic and curative use of vaccine, immune serums, convalescent serums and the like. These represent concrete achievements in the field of immunology. This phase of preventive medicine is readily appreciated and easily understood.

There is another phase of preventive medicine which is not so widely appreciated and which is not adequately practiced by the private practitioner. This second phase represents the nonspecific measures which the physicians may utilise in promoting the full development of the individual, constitutionally and functionally. By these nonspecific measures of preventive medicine, we have in mind hygienic and dietetic regimens which favor maximum growth and maximum health.

There remains the third division of the practice of personal preventive medicine, devoted to the retardation of already existing pathologic conditions. It is in this connection that we might recall the words of Osler to the effect that if one wishes to live long, one should develop a chronic illness and take care of it. Each of us knows from our own experience numerous cases of chronic illnesses, respiratory, circulatory, nephritic, etc., wherein, because the individual and his physician were impressed with the need for careful supervision of the sufferer, life and efficiency were maintained and prolonged. An illness is indeed at times a godsend to the unheeding, negligent person.

This is the framework of preventive medicine, and into this framework fits neatly and significantly the practice of oral hygiene. Oral hygiene, though cataloged a specialty in the field of dentistry, is indeed an important phase of the practice of preventive medicine.

Though perhaps a practical necessity, there is too much of a hiatus between the practice of medicine and that of dentistry. This hiatus, this gap of separation, has existed to the disadvantage of the individual. Like the artificial division of the human be-



ing into the two separate elements, body and mind, so, in miniature, in the division of dentistry and medicine, we have had a separation of the individual into the realm of the teeth, the province of the dentist, and the remainder, the province of the physician. Between the two occur many sins of omission. There is no need for me to lay stress on the interrelationship of dental disease and general health. You know that as a focus of infection, the teeth rank high in order of importance, possibly next to the tonsils. To the foci of infection in diseased teeth are charged such debilitating, crippling and destructive conditions as arthritis, endocarditis, myocarditis, pericarditis—in fact, it has been well demonstrated that many cases of heart disease have their origin in some apparently neglected or insignificant focal infection. The kidneys too may become involved and affected by infection arising from diseased teeth.

Furthermore, apart from the specific pathologic conditions which are traceable to infected teeth, there are the many other damages suffered from dental decay and destruction. The loss of teeth seriously cripples the mechanism, the ratio of the crippling, in relation to the number of teeth lost, being geometric rather than arithmetic. A crippled masticatory instrument means a disability imposed on the digestive system. This, in turn, means interference with nutrition, and nutrition is, of course, the stoking and the firing of the human machine. Lower nutritional efficiency and you impose an all-pervading and far-reaching handicap on the individual.

Assuredly, adequate nutrition is essential to all sound growth and development and to health. The effect of inadequate diet, and particularly the diets lacking important mineral salts and vitamins, has been experimentally demonstrated in animals, and has been witnessed in human beings, where famine, poverty and ignorance have been the master technicians.

On the other hand, oral hygiene scrupulously applied cannot but prove a balancing weight under those circumstances wherein nutrition is not all that it should be and the value of mouth cleanliness cannot be too strongly advocated.

From the point of view, therefore, of effectiveness in dealing with the problem of

oral and dental disease, oral hygiene is outstanding and promising. It bears an important and significant relation to preventive medicine, not only in the realm of the mouth, but also in the realm of the entire human machinery. It is, like most preventive measures, infinitely less costly than cure.

## PREVENTION AND TREATMENT OF ADYNAMIC ILEUS\*

By  
JERRE WATSON, A. B., M. D.  
Anniston, Alabama

The condition under consideration is variously called adynamic ileus, postoperative ileus, inhibition ileus, paralytic ileus, acute dilatation of the stomach, and acute gastrointestinal dilatation. It is characterized by fetid or rather "sweetish" breath, coated tongue, dry mucous membranes, oliguria, nausea, vomiting of bile stained, even fecal, material, apprehension, marked asthenia, dilatation of the stomach and bowels, and usually constipation and anemia.

### PREOPERATIVE MEASURES IN CHRONIC AND SUBACUTE CASES

As the name adynamic ileus implies, the condition following operative procedures is likely to occur in adynamic or asthenic individuals. Therefore, the first steps in preventing the condition may precede the operation itself by from a few days to a few weeks, during which the patient should be fortified against complications. In considering this phase of the subject, I have particularly in mind the gynecologic patient in whom operative treatment is not usually urgent, allowing time for adequate preparation.

The preliminary treatment should free the patient of fear and inspire confidence in her ability to win the fight back to health. It is almost impossible for medical men to realize how great is the dread with which the average patient approaches operation. Fear is an impediment to recovery and should be removed through instruction and encouragement.

Coupled with fear, and probably underlying it, is a nervous constitution. The pa-

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tient should be taught to control her emotions and to assume a hopeful and cheerful attitude toward life with assurance in her ability to solve her own problems as these present themselves. Because these patients are emotionally constituted, it is comparatively easy, in many cases, to make them realize that intelligent effort can lead to self control. With self control come assurance and hope which contribute much to prompt recovery.

To fear and nervousness is usually added undernourishment which may be the result of improper diet improperly taken or to an excessive consumption of body energy or to both. These patients, therefore, along with their emotional training, need to be given more food and taught to consume less of their strength through unnecessary work and useless fretting. Prominent in the diet allowed these patients should be milk and eggs, the latter preferably raw, for it seems that raw eggs are more easily digested and assimilated than they are in any other form. In order to secure the proper degree of rest necessary to adequate increase in strength, confinement in bed for a few days or weeks may be essential.

These patients also usually are deficient in body fluids as indicated by dry mucous membranes. This is easily observed in the mouth. Probably all the glands of the body act with as little efficiency as do the salivary glands. Accompanying this is a sluggish elimination of waste and an absorption of toxic materials. Therefore, to the diet should be added an abundance of water, forcing it to the amount of  $1\frac{1}{2}$  to 2 quarts or more in addition to the fluids taken with meals in the form of milk, etc. Every cell of the body is an electric battery and can not be dynamic without adequate water any more than can the battery in an automobile function without water. Also such steps as are indicated should be taken to combat the anemia usually present. These patients may show a hemoglobin percentage of 60, 50, or even less. In cases in which time is a considerable factor or those that do not respond to medical treatment, as may be found in patients with hemoglobin of less than 50%, blood transfusion becomes a valuable preoperative measure.

By proper preparation of the patients suffering from chronic or subacute condi-

tions that demand surgery, not only will adynamic ileus be prevented, but other hazards will be overcome as well.

#### PHYSIOLOGY OF ADYNAMIC ILEUS

It is urged by many that the condition is produced by way of the splanchnic irritation induced by surgery. This results in paralysis or at least lowered efficiency of peristalsis. This is accompanied by alimentary dilatation and increased secretion with accumulation of gas. The gas originates from fermentative processes, and perhaps more, as McIver and his associates have shown, from swallowed air, with which the impotent gut is unable to contend. Here we find a vicious circle, the more the secretion and gas, the greater the dilatation and vice versa. The inhibition of peristalsis slows or prohibits passage of intestinal contents to the lower jejunum and ileus, which is the absorptive portion of the alvine tract. This lowers, even almost destroys, absorption. The impaired absorption accompanied by excessive pouring of gastric juices into the stomach and of intestinal juices into the upper bowel combine to produce two results: (1) marked dehydration of the body tissues, and (2) toxemia as a result of putrefactive change in the alimentary tract and retention of tissue waste.

This brief resume' of the mechanism of inhibition ileus is given in justification of what has already been suggested by way of preparation of the patients who suffer from subacute or chronic conditions. It is also to be used as a premise upon which to base what we are now about to say in regard to prophylactic steps in more acute manifestations.

#### PREOPERATIVE MEASURES IN ACUTE CASES

The handling of acute cases seems to be logically divisible into two phases: preoperative and immediately postoperative; that is, before ileus has developed.

The preoperative steps are much the same as already outlined in the more chronic patients, but necessarily briefer and therefore in certain respects different. Through the physiologic mechanism already outlined, every patient subjected to operative procedures that irritate, traumatize or infect the peritoneum will develop a degree of ileus which has been denominated



"functional ileus"; hence the vomiting and slight distension, with gas pains, from which patients almost always suffer for from six to ten hours after operation. Therefore, every patient should be well supplied with fluids before operation. This may be done by proctoclysis, hypodermoclysis, or by intravenous infusion of 500 to 1,000 cc. of normal saline or Hartmann's or dextrose solution. Usually the intravenous route is to be preferred on account of its painlessness. We ordinarily administer dextrose in a 10% solution. Dextrose intravenously, especially in the stronger solutions and with insulin, stimulates intestinal peristalsis. Failure in this respect is said to be atypical. In the class of patients for whom, for various reasons, hypodermoclysis is chosen, we use a 5% glucose solution. Proctoclysis should seldom be resorted to, for it does not seem logical to instill fluids into a tract which, if not actually, is certainly potentially already physiologically impaired.

The stomach should always be empty at the time of operation. Functional ileus probably always follows surgery involving the peritoneum. The resulting reverse peristalsis and increased secretion usually produce vomiting and will almost certainly do so if the stomach is filled when the operation is begun. This physiologic impairment is what renders it necessary to administer fluids by routes other than the oral. If it were not for this contraindication, of course, the natural channel (oral) for administering the fluids would be the one of choice.

The use of purgatives immediately before operation is mentioned only to be condemned. Purgative drugs definitely increase hyperemia of the intestinal mucosa and prove a preliminary irritant to the splanchnic nerve mechanism, which is about to be subjected to operative irritation or trauma. The two combined are much more apt to induce gut paralysis than would operation alone. The same reasoning likewise renders the use of soap suds or other irritating enemata just prior to operation inadvisable. Even normal saline or plain water enemata in the majority of cases should be omitted because they stimulate peristalsis and so at this time may do more harm than good. In exceptional instances,

a small enema may be productive of less harm than would other trouble that might arise from certain conditions within the colon.

#### ANESTHETIC

Spinal anesthesia is less likely to induce vomiting or evidences of shock after operation than other forms of anesthesia. This is due to the fact that it blocks the afferent impulses from the central nervous system and so tends to prevent the reactions which are so likely to induce ileus. Further, it is said to reduce the electric potential of the body cells to a far less degree than do other forms of anesthesia. In other words, it does not reduce the dynamic powers of the individual to the same extent that other anesthetic procedures do. It does not cause the extreme loss of fluids induced by inhalation anesthesia. This loss with inhalation anesthesia may amount to as much as 1,000 to 1,500 cc. on account of increased respiration and diaphoresis. This amount, of course, is dependent upon the length of the operation and the conditions surrounding it, but it is always considerable. If vomiting occurs, as it usually does, the fluid loss becomes still greater. For these reasons, except when contraindications exist, we prefer spinal to other forms of anesthesia in doing surgery below the diaphragm. The peristaltic waves in the patient under spinal are strikingly in evidence and we believe favor a dynamic intestinal tract. The complete relaxation of the abdomen also favors rapid and smooth operating technique in which trauma may be reduced to a minimum.

#### OPERATIVE TECHNIQUE

During the operation itself everything should be done in accordance with the best standards of technique. The operation should not be unduly prolonged; the viscera should be handled as little as is consistent with thoroughness; the touch of the operator should always be gentle; the viscera should not be soiled. Observance of these points are particularly helpful in prevention of the condition under consideration for their neglect augments the splanchnic irritation and increases the chance of paralytic dilatation.

## POSTOPERATIVE MEASURES

In infected cases, or others where the condition of the patient seems to indicate, it is well to introduce a retention duodenal tube through the nose at once, provided the patient has been given a general anesthetic. If spinal has been used, one may probably better wait for the first indication of impaired function of the alimentary canal. Oftentimes spinal anesthesia is not accompanied by vomiting and a large percentage of the cases so anesthetized will not vomit after the operation is completed. In our own work, we usually do not find the use of the tube necessary during the functional stage. Fluids should be administered postoperatively as indicated and in the manner of choice. A barbiturate alone or combined with pyramidon and caffeine may be given postoperatively for the control of pain and to secure rest. If continued over too long a period to susceptible individuals amidopyrine may induce agranulocytosis. This drug should therefore be given cautiously. We believe rest important not only for the general welfare of the patient, but also we feel that ileus is less troublesome in cases that are given rest. Morphine, in the literature that has come to the writer's attention, is usually recommended for this purpose. It has been claimed that the latter drug actually stimulates "the tone, the rhythmic contraction and the peristaltic waves" of the small intestine. We have no desire to question this. Nevertheless, so many patients are made to vomit by morphine that we prefer to use as little of it as possible. Dilaudid has in one case secured rest and was followed by relief of both vomiting and distension when morphine had seemed to aggravate both, after providing only a brief period of rest.

No diet should be allowed until the patient becomes hungry. Our rule is to withhold all food until the patient asks for it. Nature's demand is the surest indication that the body is able to utilize food taken in the normal way. Water should be pushed by mouth as soon as the patient can tolerate it.

## TREATMENT OF ADYNAMIC ILEUS

If the vomiting and gas pains continue longer than twelve hours and if accompany-

ing them dehydration, oliguria, and abdominal distension or dilatation of stomach be present, the case has progressed to one of true adynamic ileus. The first cases of this in our series (we called it "acute dilatation of the stomach" in those days) were treated successfully by repeated gastric lavages. Since the introduction of the Levine duodenal tube we have used nasal drainage exclusively. This tube has the advantage of being smaller, more easily introduced, less discomforting to the patient, and provides continuous drainage. The result is less dilatation of the alimentary tube and less toxemia.

The administration of fluids should be continued. The body tissues should not be "water-logged," but, if the kidneys can be kept functioning, the fluids should be given in sufficient quantity to secure a urinary output of 1,000 to 1,500 cc. per day. If the patient is unable to void, catheterization should be done every eight hours. Cystitis does not develop so much from the use of the catheter as from overdistension. This attention to the bladder should cover the entire period from the time the patient leaves the operating room till the bladder control is reestablished.

We never use intravenous injections of hypertonic saline solutions. Their use is not physiological. We tried enterostomy in one case of toxemic, not postoperative, ileus and found that only a very small portion of the gut could be emptied by a single enterostomy. At autopsy we found that even multiple punctures were ineffective in reducing the intestinal distension. Our conclusion was that enterostomy is never indicated in this type of cases—a conclusion agreed in by surgeons of wider experience.

We seldom employ drugs for stimulating peristalsis. We have occasionally used pituitrin with fairly good results. One case, not postoperative, responded to eserine, which we believe saved the patient's life. But since the indwelling duodenal catheter has come into use, we have not found it necessary to resort to such drugs.

Heat should be applied over the abdomen. The heat tent provides the best method of application, for it induces no weight or pressure discomfort to the patient. The rationale of this procedure is justified by



the physiologic fact that dilatation of the parietal vessels is accompanied by a contraction of the splanchnic vessels, and reversely. This is generally understood in the splanchnic theory of shock. This theory holds that the body tissues are deprived of adequate blood supply by dilatation of the splanchnic vessels. This theory is tersely embodied in the statement that "the patient in shock may bleed to death in his own blood vessels." Heat applied to the abdomen dilates the somatic vessels with a compensatory contraction of the splanchnic vessels which tends to decrease the intestinal secretion and inhibit the toxemia.

Blood transfusion is an invaluable adjunct in the treatment of ileus. It is often a life saver. The value of this is so great and the reason for its virtue so apparent that it is merely mentioned as a procedure that should never be overlooked.

#### COMMENT

Most of the suggestions contained in this review are generally accepted as essentials of good surgery. They are mentioned herein because of their relation to postoperative ileus—a condition which is always of extreme gravity and consequently merits our utmost efforts at prevention and cure.

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#### CESAREAN SECTION\*

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This paper is the mere bringing together of ideas, past and present, regarding cesarean section, plus whatever individual opinions have been formed in the experience and observation of the writer.

Legends there are that Caesar, of Gallic war fame, was a "cesones"—that is, a child delivered through an abdominal, plus an uterine incision—a cesarean section. We know that is untrue, because, up to the time of Caesar, and for centuries thereafter, every woman so sectioned died. He received letters from his mother during the conduct of his wars.

The commonly accepted origin of the term "cesarean section" is a corruption of the Latin *cedere*, to cut. The Germans call it "Der Kaiserschnitt," the imperial cut; and, really, it is the most imperial and dramatic operation in all surgery.

A long period of time shows a long train of different forms of the operation. At first no sutures were employed in the uterus, which was left in the abdomen, with death resulting from hemorrhage and infection almost 100%. Saenger, a German obstetrician, was among the earliest to suggest suturing the uterus, and mortality figures began to shrink thereafter.

The first recorded cesarean operation, where mother and child lived, is credited by some to Nufer, a Swiss swine-gelder, in 1500 A. D. His wife was the patient, who later is said to have had five spontaneous births.

Tarnier says no successful section had been done in Paris up to his time, and Spaeth of Vienna says the same up to 1877.

The classic operation is the one which will probably be hard to displace. It has held its own in various forms longer than any other, and is the one most generally performed, and the one, therefore, which will be described in this paper. The low cervical operation has been used at various periods since 1805 or 1806—about 130 years ago. Not a new method, as many

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think. It has often been abandoned, and then revival attempted. Right now it is advocated by some famous men, but it can probably never displace the classic operation.

Adherents of the low operation argue that it is better as far as avoiding rupture in subsequent labors is concerned, and that infection may be lessened. Most observers admit that in spontaneous labors the cervix is always tearing, while the corpus uteri does not. A cervical scar is at the weakest portion of the uterus, anyway, and that part which has to stretch most in labor; and most susceptible to rupture in delivery following previous low section. Statistics are beginning to verify that fact. It is, therefore, inexpedient to jump at every new operative fad.

It is the writer's experience and observation in 107 classic operations, personally performed in 13 years, compared with statistics of many others, that a uterus following a properly done classic cesarean section will stand more scar strain than will the low cervical operation. About 50% of these cases were consultation operations. They were done in various Birmingham institutions, but by far the greater part of them were in the Birmingham General Hospital and West End Baptist Hospital.

Several section cases later delivered spontaneously; some by forceps and versions; several by repeated sections by the writer; several were sterilized. Some subsequent sections have been done on these patients by other doctors. Dr. Chalmers Moore did a repeat operation on one of the writer's former patients, and from another of the sections six years later he removed a pelvic tumor, and says he could find no uterine scar in either patient.

So far as the writer can learn no rupture has occurred in this series of cases in subsequent pregnancies or deliveries. About 5% of previously sectioned cases do rupture, however, in following pregnancies. The writer had a partial rupture December 24, 1935 in a case formerly sectioned low down.

"Once a cesarean, always cesarean" is not a correct statement. It is, however, always safer to be prepared to do an immediate section on a woman formerly cesareanized, so that threatened rupture may be

swiftly attacked. We can never know positively that any formerly sectioned uterus will not rupture, although the vast majority do not.

As to infection following various types of operation, it probably is about as safe with one as the other. No procedure is immune to such catastrophe. It does not always follow much handling. A woman in Tarrant City was attended by two good doctors. Both forceps and versions had been tried and failed. Version slings had been applied on arms and legs, and the extremities had been outside the vulva, and were pushed back. The writer did a cesarean on the patient—no Porro—with uneventful recovery, except for one terrible calamity, which may, however, follow any medical procedure—the patient's husband, although a minister, forgot to "pay off."

Gottschalk, of Berlin, in 1909-1911, suggested suturing the uterus outside the abdominal cavity in cases of infection, but never did the operation. Portes, of Paris, in 1924, did it, leaving the uterus outside for four weeks.

Five forms of cesarean section are now described under four heads, viz.:

1. Classic—incision in fundus uteri, or the corpus.
2. Low, or cervical, of which there are two forms, as follows:
  - (a) Trans- or intraperitoneal, access gained through peritoneal cavity.
  - (b) Extraperitoneal, where cervix is reached purely extraperitoneally.
3. Porro, or supravaginal amputation of uterus. This may follow any of the other forms.
4. Gottschalk-Portes operation already mentioned.

#### INDICATIONS FOR SECTION

Indications for section are listed under two general heads: absolute and relative.

Absolute indications are present when the baby, even mutilated, cannot be drawn safely for the mother through the pelvis. A conjugata vera of 6 or 7 cms., or a very large child otherwise, gives the absolute indications. Bony spiculae or protuberances, tumorous growths interfering with or preventing delivery, stenosed cervix or vagina frequently compel section.

Relative indications exist when the baby has a better chance of living delivered by



cesarean. Relative indications are included with a diameter of 7 or 9 cm., depending on the size of the infant.

Versions or forceps are also here considered. Contracted pelves do not always force section.

Among other relative indications found are:

Prolapsed, irreplacable cord through a closed, rigid cervix.

Habitual fetal death just before term.

Habitual premature separation of placenta after labor begins.

Abnormal, inconvertible presentations of child in aged nullipara, contracted pelvis, rigid soft parts, and oversized baby will sometimes compel section.

Rarely cesareans are justifiable due to eclampsia. Most authorities agree that eclampsia of itself is not an indication at all for a cesarean. Most authorities agree that a man who does a section for eclampsia does not know how to treat eclampsia. Forty-two per cent of sections done for eclampsia die.

Sections are at times done on account of placenta previa, premature separation of the placenta, tuberculosis, heart disease, neoplasms obstructing pelvic outlet, and by some doctors, apparently, almost because the woman happened to be pregnant.

The honesty or dishonesty, the ignorance or learning of the attendant are largely brought into play when many sections are considered or advised. It is a badly abused operation. Too many do not know any other way out of a difficult obstetrical situation except to do a cesarean section on the defenseless woman. A general surgeon, before doing a cesarean section, ought always consult with an experienced obstetrician. The obstetrician, however, should do his own cesareans, and never refer his cases to a general surgeon. Otherwise, the patient is not getting the benefit of specialized experience.

One can go to the maternities in Chicago, New York, Toronto, and Buffalo, in America; and to Dublin, London, Berlin, Vienna and Paris, in Europe, and learn to do obstetrical operations as they should be done. No man delivering babies should attempt, except in emergencies, to do forceps, versions, episiotomies, cesareans, etc., unless

he has been taught by specializing experts in these individual operations. No one operator, no matter how famous, does each of these operations with equal degree of artistry. One excels, either with forceps, or version, or episiotomy, or sections, or therapeutically. Therefore, it becomes absolutely necessary that an obstetrician should be familiar with the methods of a large number of famous operators in order to be able to give his patients the best service to which they are entitled. Classic text-books have been compiled by theoretical and clumsy operators.

The conditions for section are absent in indicated cesareans, while for relatively indicated cases the patient and baby should be in good condition. Occasionally an x-ray picture is advisable to show baby, pelvis, etc. Conditions for the anesthetic, of which ether is the choice, should be favorable. Spinal anesthesia has no place in any obstetrical operation, and rectal analgesia has a very limited application. After using the gases, rectal method, twilight sleep, chloroform, etc., the writer has dropped all to return to ether routinely. He has had no personal experience with local anesthetics.

The writer's former nurse-assistant was a graduate from the New York Lying-In Hospital, and his present nurse-assistant is a graduate of the Chicago Lying-In Hospital, and, in addition, the writer from numerous visitations to each place is thoroughly familiar with their technic; even so, rectal analgesia and local anesthetics have not been adopted in his work.

Kidneys, heart, lungs, general diseases, all should be carefully considered before doing an elective cesarean. If all is well, it is best to operate a few days before expected labor begins, but time cannot be chosen in most consultation patients.

#### PREPARATION FOR OPERATION

In elective cases, the patient enters the hospital the night before. She is advised to take a complete body bath before leaving home. She is given a soapsuds enema soon after entering the hospital. She may have a liquid supper, and three hours later a laxative of castor oil, or any quick purgative of her own choice, thus getting thoroughly empty intestines. At 6 o'clock on the morning of the operation another enema is given.

No breakfast is allowed and no water after 6 A. M., if the operation is to be at 8 o'clock. No preliminary hypodermic is given on account of the baby. This medication is perhaps desirable in other laparotomies, but not in cesarean sections.

The abdomen is partly prepared the night before by being washed with green soap, ether, and cyanide of mercury solution. A sterile dressing is applied. The bleeding and clotting times should be taken.

Just before going to the operating room, the patient is catheterized, and the vagina swabbed gently 2 or 3 times with cyanide of mercury sponges. Preparations simulating lipstick solutions are not used.

After getting the patient etherized in the operating room, the abdomen is painted with iodine, and sponged with alcohol and ether, successively, in the order given.

#### THE OPERATION

*Instruments Used:* Two or three scalpels, 12 hemostats, 2 pairs of scissors, one of them long and strong, 2 sponge forceps; curved round needles, graduated from cervix to perineal needles; 2 strong thumb forceps, Michel's clips for skin closure, sutures of No. 2, 40-day chromic catgut, peritoneal catgut, and four or five silkworm gut sutures are at hand. A tonsil suction machine is desirable, but not compulsory. A needle holder is preferred, but a strong hemostat may do about as well.

Other instruments are very rarely used. The display of a large number of instruments by the operating supervisor only tends to confuse.

With the drapings in position, a vertical skin incision is made 2 or 3 cm. left of the umbilicus, beginning at 8 cm. above and extending 4 cm. below the umbilical level; total length, 12 cm. As the abdominal wall is very thin in these patients, usually, it is well to pick up the tissues just beneath the fat, if any, with thumb forceps, and continue the incision cautiously through the peritoneum.

Rarely, otherwise, the omentum or loop of intestine may be cut through, as was done in a European maternity by a famous operator "showing off" before observers. Intestines are usually above the uterus. Attempts at legerdemain, sleight-of-hand, or tricks of magic, or racing with the clock are not ethical operating procedures in any op-

eration, much less so in as serious and gigantic an operation as a cesarean section. Operating steadily, sections are usually done in 25 to 40 minutes; sometimes less, often much longer. The writer has seen a premier operator require 100 minutes.

When through the peritoneum, the incision is further made with straight scissors, enlarging up and down, carefully watching the bladder.

Intra-abdominal packs are placed about the wound edges—two hot, wet towels usually sufficing. An ampule of infundin or gynergin is now given the patient by a nurse.

The operator rotates the uterus 3 or 4 cm. to the left, and the assistant then pushes her hands against the abdomen, holding the uterus firmly against the skin incision. This rotation prevents abdominal and uterine incisions superimposing after completion of the operation, and also puts the incision midway between the uterine cornua.

With a second knife, quickly open the uterus with short vertical incisions down to the membranes, which are peeled off a little, if possible, and the incision enlarged with scissors up and down between 2 fingers, the length of the abdominal incision. If the placenta underlies, peel off; or cut right through it. The work here now calls for speed. A slow operator ought not attempt a cesarean section. The large amount of blood frequently alarms the casual operator, and he often becomes "bumfuzzled"; hence the speed of experience is required. The tonsil suction machine is a great aid in assisting the removal of blood and fluid, thus keeping them out of the abdomen.

It is best to have a well trained nurse as first assistant, a practice the writer has indulged in for 10 years, one nurse having been his first assistant in nearly 60 cesarean sections. Thus she gets accustomed to his methods, and intuitively sees things to do of her own volition, while an interne, seeing so many different operators, can never hope to do this. Besides, a man learns obstetrics in an exclusive maternity hospital, observing the work of famous men, after doing general practice for several years. One does not learn much obstetrics in a general hospital.

After opening the uterus sufficiently, search for a foot, and do a breech extrac-



tion. The location of the foot can always be learned before beginning the operation.

The nurse is keeping the uterus pressed against the abdominal wound all the time, helping to keep the spill out of the abdomen. Another nurse is using the suction machine.

The after-coming head may be a little slow or hard to get through the 12 cm. incision above advised, but it is better to endure that inconvenience, enlarging the incision, than to cut a long, brutal gash unnecessarily.

The assistant now relaxes her hold on the uterus, cuts the cord between 2 clamps, and the baby is handed to a waiting interne, who attends to its resuscitation, giving it routinely a hypodermic of alpha-lobeline. An interne is much better to do this work than the average nurse. The operator can continue the section much more serenely after he hears the baby "howl." Fetal mortality from cesarean is about 3%.

The uterus is now lifted outside the abdominal cavity, and hot wet towels placed behind and around it, aiding the contraction in stopping hemorrhage. This gives a good position to remove the placenta and to suture.

Stop awhile and allow the uterus to contract, partly releasing the placenta and membranes, which are then removed. Wipe out fragments thereof with gauze sponges or sponge stick. Finally, gently swab uterine cavity with a sponge partly moistened—not dripping—with iodine. Pass a finger through the cervix, but not into the vagina, to see if patulous. If not, iodoform gauze may be left in the cervix for a day or two. The uterus now is usually tight, but gentle manipulation will hasten the condition, if necessary. If there is too much bleeding, the nurse places her hand around the lower portion in the abdomen.

The writer has seen a genuine postpartum hemorrhage in a cesarean section patient occur after the abdomen was closed, and the patient nearly ready to be taken to her room. In such case it is not a good plan to pack the uterus, if avoidable. Stypticine, gynergen, glucose solution (5%, 1 liter), either into vein or breasts, is the treatment, with ice to the abdomen when patient goes to her room.

*Suturing:* No. 2, 40-day chromic catgut is mostly used in this country to suture the uterus. In the Rotunda Maternity in Dublin, in Queen Charlotte's Maternity and the Chelsea Woman's Hospital, in London, the writer has seen silk and linen No. 4 used all the way in the uterus. In the Berlin Frauenklinik, and the Peham and Kermauner Maternities in Vienna, catgut is chiefly used, but in the Tarnier and Baudelocque Maternities, in Paris, linen, silk and catgut are used.

Whatever choice is made, the first stitches are continuous and go down to but not through the decidua; they are about 1 cm. apart.

Over these sutures, interrupted catgut stitches are used, bringing the middle muscle (myometrium) edges together. They are about 1 cm. apart. Knots are firmly tied, and accurate coaptation obtained, but constriction avoided. The uterine peritoneal surface and outer muscle layer are accurately closed with a continuous suture, and the uterus dropped into the abdomen. Blood clots and fluids are sponged from the pelvis.

The omentum should be placed behind, not left to fall in front of the uterus, preventing adhesions. In the high operation being described the uterine scar in a few hours sinks below the abdominal scar, and seldom adheres thereto.

If sterilization is done, the Madlener method is largely used—doubling and crushing a loop of tube on itself in 2 places (4 crushed spots), and tightly tying with strong linen suture. It is unnecessary to ligate or exsect the tube at the cornua uteri, although two cases not so treated later became pregnant. The woman's wishes should largely decide the question of sterilization.

The abdominal wound is closed in layers as usual—continuous peritoneal suture of fine catgut, fascia with interrupted 40-day, No. 2 chromic catgut; then 3 or 4 silkworm gut sutures to hold the strain, and the skin with Michel clips, which clips are removed on the 4th or 5th day. Black silk with a fine straight needle makes a pretty closure also.

#### AFTER CARE

It is well to give the patient, under the breasts or intravenously, one liter of normal saline, or of 5% glucose and soda solu-

tion, with a few drops of adrenalin, before she reacts from the anesthetic.

When reaction occurs, a Reh fuss tube is inserted in the nostril and left in for 2 or 3 days. It aids in preventing so much ballooning of the abdomen, or acute dilatation of the stomach and vomiting, features more often found in cesarean cases than in other laparotomies. Prostigmin is excellent.

Cracked ice and plenty of dilaudid are allowed. Keep the patient comfortable. Elevate head of bed moderately to aid drainage. Patient may turn in bed at will. Place baby at breast every eight hours, beginning when eight hours old, until milk comes in; then every four hours thereafter, beginning at 6 A. M. and stopping at 10 P. M. Amount of water is gradually increased until liquid diet is given on morning of third day; then soft and light diets.

Give castor oil, 60 cc., on morning of third day. A rectal tube is used freely to aid in expelling gas. High enemas of milk and molasses, 250 cc. of each, are highly valuable in gas discomfort. Infundin, 1/2 cc. every six hours for 3 doses, may be given also to relieve gas pains.

The following enema is often given:

Magnesium sulphate . . . . .	45
Glycerine . . . . .	120
Water . . . . .	120
Dissolve the magnesium sulphate in water and add the glycerine.	

Gastric lavage is of great value in cases of vomiting or acute dilatation of the stomach, and many other conditions. Do not wait too long before doing it, however.

For ileus, give every 8 hours in the vein:

NaCl . . . . .	20
Glucose . . . . .	5
Water . . . . .	1000

Eserine sulphate by hypodermic, 13 mg. (1/50 gr.), is also used for these conditions.

If the patient becomes infected the case is at once very grave and few recover. All treatment may be used, however, in an effort to combat the various complications.

Patients in uncomplicated cases stay abed 2 weeks. Sutures are removed on the tenth day. The healed scar will be about 7 cm. long, made as directed for this operation.

#### PROGNOSIS

As an operation, it is dangerous, especially when done after long delay. Mortal-

ity varies greatly from 1 to 30%, depending upon time of operation. The danger increases with every hour's delay after labor begins, especially if the sac has drained, or if the patient has been often examined, with attempts to deliver.

Two of 107 cases died, a mortality of 1.87%, one of them from chronic heart disease, 8 days after operation, stitches having been partly removed. The other died in 6 days from paralytic ileus and infection.

#### COMMENTS

The writer's first patient, personally operated on, a 16-year-old girl, went home on the 10th or 11th day, jumped out of bed to lean out of a window to see a dog fight. The abdominal incision gave way, and a small loop of intestines protruded. In a house filled with flies, with a woman waving a newspaper to keep them out of the wound, with a Salvation Army nurse to assist, without ether, the incision was resutured. Six years later this woman was delivered with forceps.

On the whole, one is safe in saying that entirely too many sections are done. Some hope-to-become surgeons do a section at every opportunity. One patient said her doctor paid her hospital bill in order to get to do the section operation.

Still, there are many cases where a version or forceps leaves the woman in much worse condition, with more morbidity and physical damage to both mother and infant, than would have followed a good section. The writer has done forceps and versions and afterward wished he had done a cesarean section. No man's judgment is infallible.

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**Treatment of Burns**—In treating burns, one should proceed on a carefully studied plan. The mistake should not be made of overlooking the symptoms of shock in the enthusiasm of treating the local wound. The most important indications where primary shock exists are to relieve pain by adequate doses of morphine or codeine, which latter is preferable in children, to apply external heat and to administer fluids by mouth, by rectum or intravenously. Heat may be supplied in an emergency by the use of hot water bottles or by inner tubes filled with hot water or by warm blankets.—*Seeger, Texas State J. Med., Dec. '35.*



## THE NEWER TREATMENT OF SYPHILIS\*

By  
W. H. Y. SMITH, M. D.  
Montgomery, Alabama

It might be well before discussing the newer concept in the treatment of syphilis to review the older methods so that later on in this paper comparisons may be made.

Ehrlich and Hata in 1910 gave to the world "606" or salvarsan. This drug was anticipated to revolutionize the problem of syphilis since it was expected that a single dose would completely sterilize the syphilis in the patient. It was to be given intramuscularly. This was looked upon as the Garden of Eden for syphilis. But the first trouble in Eden came with the use of the drug intramuscularly. Every physician recalls the marked reaction to a few drops of salvarsan or neosalvarsan if it should accidentally get into the tissues. Injecting the whole dose into the tissues led to such pain, sloughs and prolonged encapsulation that Ehrlich reluctantly accepted the intravenous method as developed by Schreiber. The Garden of Eden dream of Ehrlich and of the world for syphilis was shattered further when it was realized that a single dose of salvarsan did not completely and finally sterilize the syphilitic infection. Since then scientists have tried to improve the arsenical preparations in an attempt to approach Ehrlich's original goal and belief. Although arsenical compounds have been changed and supposedly improved, still salvarsan stands out today as the paramount arsenical in the treatment of syphilis.

Following the shattering of Ehrlich's dream of a *therapia sterilizans magna*, the older concept of intermittent therapy was somewhat extended. Before the advent of salvarsan intermittent therapy was a necessity for the preservation of the host, since profoundly toxic drugs were the only weapons of warfare in use at the time. With the introduction of the spirillicide it was thought that the ideal way to combat the spirochetal invader was to pound him with a series of small blows until he was utterly destroyed. But this method brought to light the fact that the spirochete may grow

resistant to the drug when the dosage is small and gradually increased. As a result, the massive or intensive therapeutic attack came into being. This method may be described as a sudden sortie against the enemy followed by a breathing spell, or the "stop and go" method. This scheme of treatment was the legacy we acquired from our Alma Maters to achieve the so-called "cure" in early syphilis. This and other similar methods apparently produced quite fair results, but little or no evaluation was made of any method until a massive investigation sponsored by the Health Section of the League of Nations was undertaken. In the United States the study was carried on by the United States Public Health Service and a group of five university clinics. The result of this excellent piece of work was to bring forth the "modern method of treating early syphilis."

This newer method in the treatment of syphilis is not another dream to end in failure, nor is it a method that lessens the efforts of physician and patient in the attempt to eliminate the spirochetal infection. On the contrary, it is a method that has been evaluated and proven to be superior to any other system in vogue today. It is a continuous pounding of the patient with antiluetic drugs over a period of at least one and one-half years. Instead of the "stop and go" performance of the older method it is a continuous process with no rest periods. Each week for one and one-half years the patient is receiving an arsenical preparation, or a bismuth compound, or a mercurial preparation. No rest intervals are allowed since they are quite often the cause of relapse, fixed positiveness and failure. At sometime during the one and one-half years of treatment the two drugs ought to be combined or overlapped. By this is meant the giving of the arsenical and bismuth or the arsenical and mercury together each week or with two or three days between each separate treatment at sometime during the course of treatment. In the scheme of treatment, constituting the last page of this paper, the bismuth is sandwiched between the neoarsphenamine treatment at the end of each arsenical course. This can be given just as easily concurrently with the arsenical if it is desired, but then we have to be very alert for signs of metallic poisoning.

\*Read before the Northeastern Division of the Association, Alexander City, October 1, 1935.

The first three doses ought to be half the adult maximum dose and given within the first ten days. This will prevent a Herxheimer reaction (which is the sudden flaring up of a syphilitic process). Following that, the adult maximum dose should be given. It is sometimes necessary to reduce the dose for women patients. In the continuous method of treatment, neoarsphenamine is given for a course followed by bismuth, or mercury and potassium iodide together. It is best never to end a course with an arsenical. It should always be ended with a heavy metal. In this way the patient has a greater chance to develop his own resistance to the syphilitic infection.

*Arsenical preparations* are by far the most powerful spirillicidal drugs, having some resistance-building properties. The belief today is that the arsenicals do not act directly on the organisms, but the effect is produced by their products of decomposition. These drugs act quickly and are eliminated with little storage in the body. There are four rules advised by Stokes, in his book, governing the employment of the arsphenamine group of drugs in the treatment of syphilis:

1. Never use an arsphenamine exclusively, or in the course of treatment. With it always use a heavy metal in conjunction or sequence.

2. Never use an arsphenamine insufficiently; that is, in a single short course. Either give a long course of the drug, or if short courses seem more advantageous, cover the possibility of relapse thoroughly by the simultaneous or combined use of a heavy metal. The short single course of arsphenamine, early or late in the disease, not properly combined with or followed by a heavy metal is apt to give all the disadvantages and none of the advantages of the arsphenamine group of drugs.

3. Never use an arsphenamine when there is reason to fear either therapeutic shock (Herxheimer reaction) or a therapeutic paradox (the too rapid healing of a leptic lesion). Always prepare the way with a heavy metal; always reduce the initial dose of arsphenamine to one-half the full or adult dose or even less; and do not use an arsphenamine at all in the late cases until, if ever, it is possible to envisage clearly a lasting beneficial effect.

4. Never use an arsphenamine in a therapeutic test for diagnosis when its non-specific effect, by producing improvement in other conditions, such as loss of weight, malaise, headache, multiple sclerosis and some heart indications, may lead to confusion of diagnosis with respect to syphilis.

*Bismuth compounds* have good spirillicidal action less marked than that of the arsenicals, but much more marked than mercury. The added advantage that bismuth gives as an antileptic agent is its resistance-building properties. Bismuth is stored in the body and hence this storage gives prolonged action. The toxicity of bismuth is quite low. Bismuth might then be considered as the complement of the arsenicals. It is never to be used where rapid sterilization is desired (unless there are contraindications to the use of an arsenical) but as an assistant to the arsenicals.

*Mercury preparations* have low spirillicidal properties, but good resistance-building properties. However, mercury is a highly toxic metal. *The iodides* exert no spirillicidal action and do not stimulate a specific cellular resistance against infection. On the other hand, they do stimulate some non-specific resistance to luetic infection.

In early syphilis, both in the cooperative studies of relapse and in the study of the general effect of treatment, the evidence tends to indicate that combinations of arsphenamine and bismuth are more effective than those of arsphenamine and mercury. Since bismuth is less toxic than mercury it would appear that bismuth would be the choice of the heavy metal to cooperate with the arsenicals in treating the luetic infection.

There should be no shortened or abortive courses, regardless of the stage at which treatment is begun. When once treatment has been instituted, it should always be followed through for one and one-half years. The patient whose treatment is begun in the sero-negative primary stage has an eighteen per cent better chance of ultimate "cure" than one whose treatment is begun in the sero-positive primary stage. He has a twenty-one per cent better chance of ultimate "cure" than one whose treatment is delayed until the development of the secondary eruption. Therefore, a few days' delay



between the sero-negative primary stage and the sero-positive primary stage deprives eighteen per cent of patients the chance of overcoming their luetic infection.

In order to control infectiousness and prevent the spread of syphilis not less than twenty, but preferably forty, injections of arsphenamine or neoarsphenamine should be given. This should be accompanied by an equal number of injections of bismuth or mercury. It has been shown that patients with infectious syphilis who receive less than twelve injections of an arsenical will develop an infectious relapse one to two months after cessation of treatment. The Wassermann reaction should not be used as a judge of infectiousness, but should be used as a guide to the attending physician of the effectiveness of the treatment. Unless the physician is anxious about the response of the case to treatment, it is well to delay the taking of blood for a serologic test until after the sixth month of treatment, but preferably until after the first year. Regardless, though, of when the Wassermann is made no reports should be given to the patient until he has completed the minimum amount of treatment at least. This, if done, will act as an insurance against the patient making his own diagnosis of cure and relapsing from treatment after he has received a negative Wassermann report following less than the necessary amount of treatment to control his luetic infection. During the year of no treatment a blood Wassermann test should be made every month if possible, or at least every other month, in order to judge the adequacy of treatment.

It is desirable to make a spinal fluid examination at the end of the sixth-month treatment period and before all treatment is stopped. Every patient should be carefully examined before treatment is begun and often during the period of treatment. Since there can be expected twenty to twenty-five per cent failures in fully developed infections it is well in the examination to inspect the skin and mucosae for signs of infectious relapse. It is well never to dismiss a patient as cured. He should be examined frequently by physical and serologic methods, the latter to include a spinal fluid examination one year after the first.

Most of the foregoing discussion has been limited to the treatment of early syphilis.

This stage is possibly the only one where routinization of treatment is feasible. Even here we must be careful to realize the peculiar individual reactions to syphilis. As an example, if a patient with early syphilis shows marked eye or ear symptoms it would be well to give two or three bismuth treatments first before beginning the arsenicals. In syphilitic involvement of the vital organs treatment must be individualized for each patient. In cardiovascular involvement it is well to begin treatment with mercury and iodides and later to use bismuth and an arsenical. In liver and spleen involvement, depending on the severity, begin with iodides, or mercury or bismuth and later use an arsenical. This then becomes an individual study for each patient. If a Herxheimer reaction is produced in an already damaged liver or heart, we may be the cause of the sudden demise of the patient.

If therapeutic paradox, too rapid healing of a syphilitic process, is produced in an already damaged vital organ we may again definitely and for all time prevent the patient from resuming even an approach to a normal life. Too rapid healing may crowd out with fibrous tissue many cells that under a slower healing process might have left the patient with enough normal cells to carry on in a moderately useful fashion. Therefore, great care must be exercised in treating late syphilis. When in doubt (except in early and infectious syphilis) always begin with a mild antiluetic drug with little or no spirillicidal properties. Old chronic luetics who have had their infections for thirty to fifty years and show a decided latency with little or no signs of syphilis are oftentimes better left alone than treated. The institution of treatment may flare into being a latent infection changing the quiescent syphilis to a dangerous one. It must be remembered, however, that one who acquires primary syphilis in his dotage is as dangerous an infector as any other patient with infectious syphilis. In the way he acquired his syphilis so in that way will he spread it.

When we realize that more than two-thirds of the women and one-half of the men do not seek treatment until they have had their syphilis for more than a year, we can realize the magnitude of the problem.

Unless we all pull together syphilis will continue to spread to the detriment of the human race. The scheme of treatment, referred to in an earlier paragraph, follows:

#### ROUTINE TREATMENT OF EARLY SYPHILIS

As Recommended by United States Public Health Service and John H. Stokes, M. D.

Day or Week	Dose of Neoarsphenamine	Dose of Bismuth or Mercury and Potassium Iodide
Day 1	0.3	
5	0.3	
10	0.3	
Week 3	0.6	
4	0.6	
5	0.6	
6	0.6	
7	0.6	
8	0.6	
8½		2 cc. bismuth
9	0.6	
9½		2 cc. bismuth
10	0.6	
10½		2 cc. bismuth
11		2 cc. bismuth
12	0.6	
13	0.6	
14	0.6	
15	0.6	
16	0.6	
16½		2 cc. bismuth
17	0.6	
17½		2 cc. bismuth
18		2 cc. bismuth
19		2 cc. bismuth
20		2 cc. bismuth
21		2 cc. bismuth
22	0.6	
23	0.6	
24	0.6	
25	0.6	
25½		2 cc. bismuth
26	0.6	
26½		2 cc. bismuth
27	0.6	
27½		2 cc. bismuth
29		2 cc. bismuth
30		2 cc. bismuth
31		2 cc. bismuth
32		2 cc. bismuth
33	0.6	
34	0.6	
35	0.6	
36	0.6	
36½		2 cc. bismuth
37	0.6	
37½		2 cc. bismuth
38	0.6	
38½		2 cc. bismuth
39		2 cc. bismuth
40		2 cc. bismuth
41		2 cc. bismuth
42		2 cc. bismuth
43		2 cc. bismuth
44		2 cc. bismuth

Day or Week	Dose of Neoarsphenamine	Dose of Bismuth or Mercury and Potassium Iodide
45		2 cc. bismuth
46	0.6	
47	0.6	
48	0.6	
49	0.6	
49½		2 cc. bismuth
50	0.6	
50½		2 cc. bismuth
51	0.6	
51½		2 cc. bismuth
52		2 cc. bismuth
53		2 cc. bismuth
54		2 cc. bismuth
55		2 cc. bismuth
56		2 cc. bismuth
57		2 cc. bismuth
58		2 cc. bismuth
59	0.6	
60	0.6	
61	0.6	
62	0.6	
63	0.6	
63½		2 cc. bismuth
64	0.6	
64½		2 cc. bismuth
65		2 cc. bismuth
66		2 cc. bismuth
67		2 cc. bismuth
68		2 cc. bismuth
69		2 cc. bismuth
70		2 cc. bismuth
71		2 cc. bismuth
72		2 cc. bismuth
72-124		No Treatment

#### IMPORTANT MAXIMS WORTH FOLLOWING

1. There is no reason to treat old chronic luetic cases. If in doubt consult your health officer.
2. Make the first dose of neoarsphenamine half the ordinary adult maximum dose.
3. Take age, weight, and sex into account. Women two-thirds the dose for men.
4. Adult dose usually is 0.6 gram.
5. Never end a course with neoarsphenamine. Always end with bismuth.
6. Treatment should be continuous. Intermittent treatment is disastrous from a standpoint of "cure." Irregularity leads to relapse, fixed positiveness and failure.
7. Never dismiss a patient as cured. Examine frequently the blood, mucosae, and skin in the first two years after treatment starts.
8. Blood Wassermann every month, or every other month, during no treatment.



## A NEWS LETTER

*Issued January 2nd by the United States  
Public Health Service*

### POLIOMYELITIS FOLLOWING VACCINATION AGAINST THIS DISEASE

During the past year in the United States, several thousand individuals, mostly children, have received subcutaneous and intracutaneous injections of treated poliomyelitis virus in the hope of acquiring immunity against the natural disease. The two different forms of treatment to which the virus was subjected were intended to render it innocuous when thus used as a vaccine. Through those responsible for the production of these vaccines, through several health officers, and others, word has come to the Service of the development, at suggestive intervals following these injections, of cases of paralytic poliomyelitis with high fatality. Though possibly subject to some correction, it is believed that the following statements represent closely the facts in each case.

1. A boy, age 5, had his first symptoms of poliomyelitis 6 days after receiving the 2nd dose of vaccine A in the left arm, the 1st dose having been given in the same arm 27 days before the second. Paralysis began in the left arm the day after onset and death occurred after an illness of 3 days.

2. A girl, age 21 months, received the 2nd dose of vaccine A in the right arm 12 days after the 1st dose, and the onset of poliomyelitis occurred 6 days after the 2nd dose. Paralysis began in the right arm 3 days later, and death occurred in 5 days after onset.

3. A boy, age 4, had his onset of poliomyelitis 8 days after the 1st dose of vaccine A in his left buttock, and one day after the 2nd dose at the same site. Paralysis began in his right leg 2 days later and is at present, after 3 months, confined to that extremity, though there is hope of ultimate nearly complete recovery.

4. A girl, age 8, had her onset of poliomyelitis 8 days after the 1st dose of vaccine A in her left arm, and one day after the 2nd dose in the same arm. Paralysis began in the arm 2 days later, and death occurred after an illness of 3 days.

5. A boy, age 8, had his onset of poliomyelitis 8 days after the 1st and only dose of vaccine A in his left arm. Paralysis began in the right arm 2 days later, and remained as a deltoid paralysis at last accounts.

6. A boy, age 5, had his onset of poliomyelitis 9 days after the 1st and 2 days after the 2nd dose of vaccine A in his arm. Arm paralysis began 2 days later, and death occurred after an illness of 3 days.

7. A boy, age 10, had his onset of poliomyelitis, 10 days after the 1st dose of vaccine A in his left arm and 3 days after the 2nd dose in the same arm. Paralysis began in the right arm the next day, and death occurred after an illness of 3 days.

8. A girl, age 5, had her onset of poliomyelitis 11 days after the 1st dose of vaccine A in her right arm, and 4 days after the 2nd dose in the left arm. Paralysis began in the left arm 4 days later and was still present at last accounts.

9. A girl, age 15 months, had her onset of poliomyelitis 13 days after the 1st and only dose of vaccine B in the abdomen and developed general weakness 4 days later, which persisted at last report.

10. A boy, age 5 months, had his onset of poliomyelitis 14 days after the 1st and only dose of vaccine B in the abdomen and paralysis was first noticed 9 days later. This paralysis persists at last report.

11. A girl, age 6, had her onset of poliomyelitis 14 days after the 1st, and 7 days after the 2nd, dose of vaccine A in her arm. Paralysis began in the left arm 3 days later, and complete recovery was questionable at last report.

12. A boy, age 20, had his onset of poliomyelitis 14 days after the 1st and only dose of vaccine B in his abdomen. Paralysis began 2 days later, and death occurred after a 4-day illness. From this case poliomyelitis was transmitted to monkeys by Dr. J. F. Kessel.

Paralytic poliomyelitis was not epidemic in any of the localities at the time of the occurrence of these cases if these cases themselves are not included in the count. During the heaviest incidence of poliomyelitis in the community with the highest reported incidence, the expectation of paralytic

poliomyelitis among those vaccinated within three weeks following vaccination, judging by its occurrence by age-groups in the community at large, was less than one-tenth of a case, yet a case occurred. At the other periods and in the other localities, the chance of a case occurring among the vaccinated was much less, yet in each instance cases occurred. The likelihood of the whole series of cases having occurred through natural causes is extremely small. In none of the cases was exposure to infection outside its own area known to be of special significance.

It is believed that to many physicians this series of cases, following by intervals of six to fourteen days the injection of one or the other of two different vaccines, renders undesirable the further use of poliomyelitis virus for human vaccination at present.

In every case where the injection was made in a limb and the sequence is known, the level of the spinal cord first affected corresponded to the extremity where the injection was made, paralysis beginning either in the same limb or in the contralateral limb. This is strong support to other evidence that the virus of poliomyelitis is transmitted along nerve fibers, since neither blood nor lymph streams would afford direct access from one extremity to the corresponding cord level. The remarkably high fatality in this series of cases was perhaps due to the part of the cord primarily infected being close to the nuclei corresponding to the muscles of respiration. The possibility is to be considered that a strain of poliomyelitis which has been subjected to prolonged monkey passage, with rather short incubation periods, is unusually virulent to man when administered by the subcutaneous or intracutaneous route. Though in a few of these cases it is possible or even probable that there was another intercurrent illness in addition to poliomyelitis, in general the preparalytic symptoms were such as would be expected in poliomyelitis naturally acquired.

In forming a judgment as to the applicability of a poliomyelitis vaccine, the not inconsiderable local and general reactions following its use need to be taken into account.<sup>1</sup> It is also noteworthy that the appearance of neutralizing antibodies in the blood after the injection of poliomyelitis virus is very uncertain evidence of parallel immunity to the natural disease.<sup>2</sup>

Although any one of these cases may have been entirely unconnected with the vaccine, the implication of the series as a whole is clear.

The above statement of cases is slightly amplified from that appearing in the *Journal of the American Medical Association* of December 28, 1935.

1. Gilliam, A. G., and Onstott, R. H.: Results of Field Studies with Poliomyelitis Vaccine, read before the Southern Branch, American Public Health Association, St. Louis, November 19, 1935. *Am. Jour. Pub. Health*—to be published.

2. See also Schultz, E. W., and Gebhardt, L. P.: On the Problem of Immunization against Poliomyelitis, *California and Western Medicine*, 43: 112 (Aug.) 1935.

# THE JOURNAL

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### REGARDING POLIOMYELITIS VACCINES

Perhaps no known disease strikes greater terror to a mother's heart than does poliomyelitis, when she is told that her child has fallen a victim to this disease. Almost every community affords one or more living, limping examples of its ravages. One has no difficulty in appreciating the avidity with which she is prone to clasp to her bosom any ray of hope extended, whether of a curative or preventive nature. Out of the manifold experiments thus far conducted by science in its efforts to master this elusive disease, not much of promise has yet come. But it will, in time. Until such time as a safe and dependable agent has been discovered, either for the prevention or the cure of poliomyelitis, the practitioner, upon whom the trusting mother must lean, can but stand by and apply such remedies as furnished him through science and which, in their employment, are known to have no harmful effect. This would seem to be particularly applicable to agents supposed to possess immunising properties. Because of the importance of this disease and also because of the unproved and dubious status of poliomyelitis vaccines, the particular attention of the practising profession of the State and of all county health officers is directed both to the carefully prepared statement emanating from the Surgeon General's office of the United States Public Health Service appearing on page 259 of this issue of the Journal, and also to the

article in this issue of the Journal prepared by Dr. D. G. Gill, Director of the Bureau of Preventable Disease Control, and appearing in the Department of Public Health.

### LATENT SYPHILIS

"Latent syphilis is one of the great problems in syphilology, indeed, in all medicine. Many cases of it that formerly escaped detection are now being found as a result of the development of sensitive flocculation and precipitation tests and the commendable practice of having one or more of them performed routinely as a part of all physical examinations. The general practitioner, who discovers a large percentage of these cases, will not find much light on the subject in the books in his library although the matter is adequately covered, to the extent of our present knowledge, in the new literature on syphilis written for the specialist."

Thus does Karcher<sup>1</sup> open his discussion of latent syphilis in an article which was published shortly after his death. The author distinguishes between "clinical, pathologic, and serologic latency, remembering that 'latency' is a relative term and that when it occurs during the first four years of the infection, it is called 'early'; thereafter, when the patient's natural resistance has become fully established, it is 'late.'" And every experienced physician who has ruminated over the unpredictable and illogical reactions of syphilitics, both treated and untreated, to their infection will agree when he states that "while it is true that many patients, if they live long enough, will develop grave lesions in the cardiovascular or nervous systems or benign lesions in the skin, mucous membranes, bones, or viscera, we do see many patients who seem to live in perfect harmony with their spirochetes and, except for a probable positive serum reaction, show no clinical evidence of infection, and they eventually die from some unrelated cause."

In regard to the various serologic reactions the author discusses the Hinton, Kahn and Wassermann tests and esteems them in the order given, saying that five years' ex-

1. Karcher, Edward Winslow: Latent Syphilis, New England J. of Med. 213: 257 (Aug. 8) 1935.



perience "has shown the Hinton test to be the most sensitive and without loss of specificity. . . ." He also alludes to the exasperation experienced by any conscientious practitioner when he receives conflicting reports from different tests done simultaneously upon the same patient.

Latent syphilis, frequently so difficult of detection, is one of the major sources of misery and suffering. And yet, so much is treatment being improved and so greatly is diagnosis being refined, that the outlook for the syphilitic promises to become brighter. The problem is: How can existing facilities best be used?

Laboratories are much more plentiful than they were twenty years ago, but far too few practitioners make sufficient use of them. A routine Wassermann or Kahn on every patient when possible would do much more good than harm. In fact, Karcher even went so far as to hold that "... it would seem that we should be required by law to have a blood test of every pregnant woman, regardless of her station in life, as soon as pregnancy is determined." Unfortunately it will be a long time before this heroic method of eliminating congenital syphilis can be brought about. Even though the physician be both conscientious and competent, he is all too often thwarted through the ignorance, indifference or hostility of his patients. The patient objects to taking "shots," feels good again, and firmly believes himself to be cured and that the doctor is actuated by a desire for financial gain.

But, despite these difficulties, the clinician who is alert and well informed, and who is patient and tactful with his syphilitics, can often achieve much. For, while syphilis is still a most horrible disease, modern diagnostic and therapeutic measures can do a great deal toward holding its ravages in leash.

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#### FULL-TIME COUNTY HEALTH ORGANISATION IN ALABAMA

The first full-time county health unit in Alabama, which was the second to be organized in the United States, was launched in 1914 in Walker County. From this time on organization for health work in this State showed a gradual and wholesome in-

crease. The many benefits accruing from this service were appreciated alike by the medical profession, the people, the legislature and county appropriating bodies, which last, in many instances, put forth unusual efforts to procure these services. It should be borne in mind that this growth has proceeded along purely voluntary lines and the inauguration of the work within a county has sprung from an appreciation and desire on the part of the people to participate in such service. The legislature of 1927, keenly alive to the value of proper health organization throughout the entire State, made suitable financial provision of a state subsidy to counties for complete expansion of the work. The year 1932 found 54 of Alabama's 67 counties organized. Then came, with pitiless force, the financial debacle of 1932, which not only retarded normal growth, but forced out of the picture some eight counties already operating, thus bringing the total to 46 and with many of these eking out a rather wretched existence. As one glances back over these hardships and struggles, the marvel is that the mortality for these organized counties was not greater. With the beginning of the fiscal year 1934-1935, and even a little before, the general financial situation, both for the State and for most counties, began to clear. As this change developed, it has been most gratifying to see the avidity with which the formerly organized counties, as well as those never so organized, are exerting themselves to procure health service. Surely, no better argument could be advanced for its actual value to a community. January 1, 1936, will find 57 of our counties—three more than in 1932, when we reached the peak—participating in full-time health service. Not only this; the outlook is promising that within the next few months several others will see the light and join the fold. There now remain but 10 counties unorganized; they are: Bibb, Butler, Choctaw, Clarke, Clay, Geneva, Greene, Fayette, Hale, and St. Clair. It is true that some of these counties, from a financial viewpoint, are amongst our poorest counties; some of them can not be so classified and none can boast a greater degree of impoverishment than some already organized and which stood firm throughout the entire depression. The State Health Officer has set for

himself the goal of one hundred per cent organisation for health work in Alabama during the year 1936 and asks the organised medical profession and more particularly the doctors in the unorganised counties mentioned above, who, in truth, constitute Alabama's State Board of Health, to throw the weight of their power behind him in accomplishing this end.

There is given below copy of letter which has been sent to editors of county papers in unorganised counties, together with copy of an editorial bearing on this subject recently appearing in one of the Kentucky county newspapers.

To the Editor of.....

Dear Sir:

By January 1st, 1936, 57 of Alabama's 67 counties will be enjoying the benefits to be reaped from full-time organised health service. This leaves but 10 counties in the State not so organised, one of which happens to be your own county.

As you no doubt are aware, health work in each county is financed through a combined budget, to which both the State and local agencies contribute.

Both the Governor and the State Health Officer are exceedingly desirous of seeing every county in our State enjoying these services at the earliest possible time and are hopeful that the coming year will bring forth one hundred per cent organisation for Alabama.

Feeling that you and your newspaper are strong factors in the moulding and expressing of community sentiment, there is enclosed herewith a copy of an editorial recently appearing in one of the county newspapers in Kentucky which may be of service to you, if you should feel inclined to stimulate interest in health work in your county. If your county officials should wish it, this department will be glad to send a representative to discuss with them the question of finances or to aid in any possible way looking to the promotion of full time health work in your county.

Very sincerely yours,

J. N. Baker, M. D.,  
State Health Officer.

#### *Taxation and Health*

(This article appeared as an editorial in the October 11, 1935, issue of the Hancock Clarion, published at Hawesville, Kentucky, and edited by Mary Agnes Kelly.)

Taxes are paid into the county treasury. That is as it should be, for without taxes there could be no uniform government—for and by the people.

Of course, there are many forms of taxation, and so called useful spending of the means thereby derived, but can our own county officials look into the eyes of a disease-stricken people and explain the lack of an organized full-time health department?

Other counties in a far worse financial condition than our own, have found a way to conduct one. Why not our debt-free county?

For many years, money has been raised for the road fund, the emergency fund and the various other funds, that our officials deem it so necessary to have for the citizens. All of this is derived by taxing these same citizens. What we would like to know is: Why can't another fund, namely, that of creating, in cooperation with the State Health Department, a full-time county unit be brought about and kept up the same way, if no other means is deemed available?

We heartily agree that taxes are hard to pay, and perhaps are high at present, but we also agree that suffering and possible death for lack of preventive measures, are a dear price to pay, and that a healthy populace is a safe investment, regardless of dollars and cents.

The old saying, "An ounce of prevention is worth a pound of cure," is very appropriate. The department, as it now stands, only aids in the cure. If a little money, the result of taxation, be cut from some of the other funds appropriated by the county, and used, in cooperation with the State, to maintain a full-time health unit, then much of the suffering and anxiety now endured, would be done away with—thus affording a means of prevention.

Our officials probably will contend that to cut other funds, for example, the road fund, would cause hardship. We merely use the road fund for an example, as we have no objection to its operation at present. We agree with the officials as to the hardships that may result from such reduction—but we ask: What good are roads to those who have passed on as the result of scarlet fever and diphtheria; to those who must endure for life the pain and discomfort of twisted limbs from infantile paralysis, and to those whose hearts are heavy because loved ones must endure such conditions?

We must awaken and rub our eyes to the fact that something must be done, and that now, while the percentage of disease is small. The only sensible way is the organization of a full-time health unit for.....County. If our people are taxed for a government, by and for the people, would not their health be considered a sound investment?

#### THE STATE SUBSIDY FOR COUNTY TUBERCULOSIS SANATORIA

Quite too long has Alabama's problem of tuberculosis been permitted to drift and float on an uncharted sea, rudderless and unsponsored. But now that the State has moved up its forces in an effort to aid in a financial and directional way, local agencies, upon whose shoulders responsibility for solution finally rests, may feel justified in proceeding more hopefully and more boldly with plans both for the construction of suitable institutions and for their maintenance.



It will be recalled that at the last meeting of the legislature the Health Department was successful in its efforts to have the State appropriate, during the present quadrennium, the sum of \$75,000, annually, or as much thereof as might be needed, as a subsidy to those counties now operating or which may hereafter operate local sanatoria for their tuberculous. This appropriation was not to become operative until such time as, in the opinion of the Governor, the State's finances would justify. However, the Governor is not only entirely sympathetic towards the program of tuberculosis control which the Health Department is sponsoring, but is also acutely aware of the crying need for action on the State's part. Consequently, there is every reason to believe that upon the reconvening of the legislature, proper provision will be made for the financing of this appropriation.

Each such sanatorium, after making the required official contact with the State through its board of county commissioners, as provided in House Bill No. 440 of the 1931 legislature for the construction and maintenance of county tuberculosis sanatoria, may receive a per diem stipend, not to exceed 75c, for each case of tuberculosis cared for in a sanatorium approved by the State Board of Health. There are now in the State six local sanatoria being operated largely on a voluntary basis, with the local official agencies, either county or municipal, or both, making such contribution towards maintenance as they can. These sanatoria are located in Etowah, Jackson, Jefferson, Mobile, Montgomery and Morgan Counties. In one or more other counties serious effort is being put forth to promote building programs, either through Public Works Administration or Works Progress Administration assistance, as well as enlarging, or improving existing facilities.

The central Health Department, feeling that a rare opportunity presented to local communities for procuring federal aid in building these much needed structures, has sought to lend its aid wherever possible. Just how long this federal assistance will be forthcoming no one can foresee or prophesy; it may not yet be too late for a community to bestir itself—as have Jackson and Morgan Counties—and procure for

its people some sort of facilities for its tuberculous.

Local sanatoria now existing, as well as others subsequently to be built, should familiarize themselves with the provisions of the Act permitting local institutions to participate in the State subsidy. Briefly, the salient features to be borne in mind are:

(a) A sanatorium of at least 25 beds with provision for both white and colored patients.

(b) The appointment by the county appropriating body of a board of trustees composed of five members. Nothing in the Act precludes members of the board of revenue or other like body from serving also on this board. (See Section 3 of the Act.)

(c) As set forth above, the maximum per diem for each case cared for is 75c.

From the above it will be seen that it is important for sanatoria to have their plans of administration, as well as their physical plants, brought into line with the minimum requirements as set forth in the Act, in order that they may be in position to participate fully in its benefits. No group is in a better position to appreciate the full significance of such inadequacy of hospital facilities for tuberculosis, as now exists in Alabama, than the medical profession. This group, constituting as it does, Alabama's State Board of Health, should not rest content until, under its direction and leadership, the present plans of the Health Department, which seek to arouse local interest and responsibility through the utilization of local sanatoria, have been expanded far beyond the limited range now afforded. The December 7, 1935 issue of the *Journal of the American Medical Association* carries a comprehensive and interesting analysis of what is being done by each State, in a concrete and specific way, towards the ravages of tuberculosis. In comparison with what most other states are now attempting, Alabama's efforts can hardly be classed either as creditable or encouraging.

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It is not work that kills men; it is worry. Work is healthy; you could hardly put more upon a man than he can bear. Worry is rust upon the blade. It is not the revolution that destroys the machinery, but the friction.—*Beecher*.

## DEPARTMENT OF PUBLIC HEALTH

### BUREAU OF LABORATORIES

James G. McAlpine, Ph.D., Director

#### RABIES TREATMENTS ACCORDING TO RACE

A recent tabulation of the answers given to the questionnaires which have been included with every antirabies treatment distributed since July 1, 1933 has given some interesting data concerning rabies in Alabama. The information requested was the doctor's name, patient's name, color, age, sex and address; whether pay or indigent; species of animal implicated; whether the individual had been bitten, merely exposed or ingested milk; date of bite or exposure; whether or not a laboratory or clinical diagnosis had been made on the suspected animal; the severity and location of the wound; and the date treatment was begun.

From July 1, 1933 to July 1, 1935, antirabies treatments totaling 9,737 were distributed. During the same period 6,091 questionnaires were returned, and of this number 138 were of little value while 3,978 were complete. However, all gave the color of the patient and from these data some definite conclusions could be drawn.

Of the 6,091 questionnaires returned it was found that rabies treatments had been administered to 5,559 white patients and 532 to colored. Therefore, approximately 91 per cent of the treatments were given to the white population and 9 per cent to the colored. According to the 1930 census approximately 65 per cent of the population of Alabama was white and 35 per cent negroes. On the other hand, the proportion of treatments administered was ten times as great among the white population as among the colored. If the number of treatments had been in direct proportion to the distribution of the population by race, then the ratio would have been less than 2 to 1 instead of 10 to 1.

From everyday observation it would appear that the negro is more often exposed to rabid animals than the white. Three factors are concerned in this: (1) the negro has, as a rule, more dogs per household than his white neighbor; (2) he lives in more intimate contact with these domesticated animals; (3) he more often gives a home to

stray dogs which are liable to be infected with rabies. Nevertheless, on the basis of the results compiled from the questionnaires, the negro takes antirabic treatment far more infrequently than the white.

Since the negro is more irresponsible than the white, it might be argued that less questionnaires would be received from them than from the whites. This, however, is not the case because the attending physicians must return these blanks properly executed before the State will pay an indigent fee. Since indigency is more prevalent among the negroes, it is undoubtedly true that a larger proportion of the questionnaires for whites are not returned than for the negroes.

Therefore, if the negro is more often exposed than the white, but takes far less than his proportionate share of treatments, it is reasonable to expect that more deaths would occur from rabies among the colored population. The annual number of deaths from rabies in Alabama is small. Hence, the composite deaths for a ten year period 1924-1933 were used. During this time 31 deaths from rabies have been recorded and of these 21 were white and 10 colored. This approximate 2 to 1 proportion is the same as the distribution of the population to race.

McKendrick,<sup>1</sup> who utilized the statistics from the various Pasteur Institutes, has shown that the mortality from rabies is 5.2 times as great amongst non-Europeans as it is amongst Europeans. A number of factors, such as the vaccine used, the severity of the bite, the time before treatment was begun and the methods of diagnosis play important parts in the racial differences. He states "it would appear that no single one of the factors which reduce the racial difference in mortality is in itself sufficient to account for the racial difference, but that they all participate in it."

Likewise, a variety of factors probably play a part in the racial difference in Alabama. Without doubt there is a combination of factors. The fact that only a small number of persons who have been actually

1. McKendrick, A.: Fifth Analytical Review of Reports from Pasteur Institutes on the Results of Antirabies Treatment, Quart. Bull. Health Organization, 5: 615-633 (December) 1934.



bitten by rabid animals develop rabies is significant. Rosenau<sup>2</sup> says "Leblanc's figures are 16.6 per cent. The statistics are difficult to analyse, and it is almost impossible now to collect data of persons bitten by mad dogs and not receiving prophylactic treatment. Paltauf places the figure at 6 to 9 per cent."

## BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

### MIDWIFE CONTROL PROGRAM

The most important inherent characteristic of any species is the reproduction of its kind. In the human race reproduction and safeguarding the race are so handicapped with other recognized needed activities of pursuing wealth and happiness that they receive a subordinate position in the life of the individual.

The history of assistance rendered at the birth of man gives much information, but there is not a complete report on this subject. It did not take a long period of time for this service to develop from a family help into a community need. At first it was probably the mother, the husband, or a member of the family. Later on the monk, the barber, the executioner or the physician attended to this need, but the handy woman, as she was called, always played a very important part in the birth of babies.

As late as the 19th century it was regarded much safer to have this handy woman, who later charged regularly for her services and became known as a midwife, to do the deliveries.

According to the Alabama Political Code, 1923, "a midwife is any person other than a regularly licensed physician who shall attend, bargain or agree to attend a woman at or during childbirth."

In Alabama four out of every ten babies born are delivered by midwives. These midwives are still the husband, the mother, the grandmother, handy woman and handy man who have had little or no preparation for the work.

The State Board of Health, cooperating with the State Medical Association, has worked out a midwife program that selects women who are physically fit, most mental-

ly alert, and skillfully taught to do deliveries of well mothers of full term pregnancies who are having normal deliveries.

The control of this practice has somewhat lagged in comparison to its use. At first, effort was made to control only those charging for their services.

The adoption and enforcement of the following suggested regulations by each County Board of Health will aid in fulfilling the training and controlling the practice of midwives in Alabama.

#### SUGGESTED MIDWIFE REGULATIONS

Sec. 1. Every applicant for a permit to practice midwifery as herein provided must possess the following qualifications:

- (a) Be not less than 21 years old nor over 65 years.
- (b) Be able to read the midwife manual intelligently and to fill out birth certificates legibly.
- (c) Be clean and constantly show evidence, in behavior and in the home, of habits of cleanliness.
- (d) Be mentally and physically able to do the work of caring for the delivery and after care of the mother and baby according to State rules and regulations.
- (e) Be of good moral character and good reputation.
- (f) Be recommended by local physicians as to meet a need in the community and willingness to carry out orders.

Sec. 2. Unless revoked every permit to practice midwifery shall qualify the holder thereof to practice during the current calendar year only. Permit must be renewed not later than April 10th of said calendar year.

Sec. 3. All midwives to whom permits have been issued must conform to all rules and regulations of the State Board of Health, the provisions of the public health laws of the State of Alabama, the rules and regulations of County Boards of Health and all lawful orders and directions of the State Board of Health and County Boards of Health.

Sec. 4. Any violation on the part of any midwife of any of the rules and regulations of the State Board of Health, the provisions of the public health laws or rules and regulations of County Boards of Health or the disobedience of any lawful order of the State Board of Health, or County Boards of Health, or any County Health Officer, shall be sufficient cause for the withholding of permit to practice midwifery from any midwife so offending in any manner as the aforesaid by the County Board of Health.

Sec. 5. A midwife may practice midwifery in the cases of normal delivery and in no others. No midwife shall in any case use instruments of any kind, or assist labor by any artificial, forcible, or mechanical manner, or attempt to remove the adherent afterbirth, or administer, prescribe or employ any poisonous drug or herb or medicine, or attempt the treatment of any disease.

2. Rosenau, M. J.: Preventive Medicine and Hygiene, Sixth Edition, D. Appleton-Century, New York, 1935.

Sec. 6. The holder of a permit to practice midwifery must keep the permit pinned in the back of the manual and be prepared to present it to any person who inquires as to the authority of the holder to practice midwifery.

Sec. 7. The midwife shall make application on a form provided for that purpose to the County Board of Health and shall give such information as this Board requires before such applicant shall be considered. The State Board of Health is to give suggestions as to oral and written examinations to be used for determining the mental aptitude and the technical ability of said applicant to practice midwifery.

Sec. 8. After the County Board of Health has given approval to an applicant to practice midwifery, the Chairman of the County Board of Health shall sign the permit to practice in that county.

Sec. 9. After a person is granted a permit to practice midwifery in any county in Alabama, she renews her permit by appearing before the County Board of Health and if there is no reason for revoking her permit, she is permitted to continue. This is done annually, not later than April 10th.

Sec. 10. A roster of midwives is to be kept by the county and State.

Sec. 11. At any time there is failure of the midwife to comply with rules, regulations, laws or orders of the State or County Boards of Health, it shall be investigated by the County Board of Health before the permit is revoked. A record of all revocations of permits should be sent from the County Board of Health to the State Board of Health.

In most European countries where the midwife delivers 80 to 90 per cent of the babies and the physician 10 to 20 per cent, there is a national midwife program that provides for training, supervision and paying for the services of these women. In the United States where the physicians deliver 90 per cent and the midwives 10 per cent we have only the State and county programs. There is seldom any training offered the midwives, very little supervision given, and no public funds to pay for their services. In Alabama there is state supervision with county control. This gives the State the privilege of advocating the program that is to be carried out in each county. There is always participation by the State and county in both the making and enforcing the program. The enforcing of the law is largely in the hands of the County Board of Censors (County Board of Health). Where there is a county health unit its staff carries out the orders of the County Board of Censors (County Board of Health) regulating this practice.

Alabama is rightfully proud of the achievements of organized medicine during

the last twenty years. It has reduced the number of deaths from many communicable diseases, such as smallpox, typhoid fever, malaria, diphtheria, tuberculosis, diarrhea and hookworm, but deaths of infants under one month, the stillbirth rate and maternal deaths have been little changed. When the State Medical Association recognized this condition, it began to study ways of correcting this high death rate. A committee on maternal and child welfare was appointed. One of the activities was a survey of the midwife field to find out the problems of midwifery.

The survey showed that in 1933 there were 5,000 midwives in the State, 50 per cent of whom were not registered. They were attending 35 per cent of the births. In most cases they were old, dirty, and ignorant. The next step was to find those needed to supplement delivery service in each community; register the women who were physically fit and amenable to following orders and receiving instructions.

The registration is done by written application for a permit. Personal data are accumulated, the applicant is given a physical examination, and permit granted to those needed and found fit by the County Board of Health.

Instruction is through organized midwife clubs which meet monthly. The State furnishes a year book which covers necessary procedures and practices that midwives need in their work. The training of the midwife includes registering in the county where she practices, procuring proper equipment, caring for this equipment, and using this equipment for safeguarding the lives of mothers and babies. She reports all names of expectant mothers of her acquaintance to the County Board of Health. She urges all mothers to have medical examination as soon as they are pregnant and to report to their doctor, if they have any, the following symptoms:

- Spots before the eyes or dizziness.
- Severe headache.
- Persistent vomiting.
- Swelling of the feet, hands or face.
- Cramping pains in the pit of the stomach.
- Continued constipation.
- Diarrhea.



Reduction in amount of urine or difficulty in urination.  
Great gain in weight—over 25 pounds.  
Loss of weight—over 10 pounds.  
Muscular twitching.  
Shortness of breath.  
Persistent cough.  
Sores on the genitalia.  
Foul smelling discharge from the birth canal.  
Bleeding from the birth canal.

This midwife year book has developed into a midwife manual that is used for training and guiding midwife practice. Emphasis is placed on teaching the midwife to stop practices which endanger the life of the mother or baby; vaginal examinations, treatment of "body trouble" during pregnancy or following delivery, giving any medicine or teas to increase or decrease labor, and practicing medicine in any way.

The elimination of the unfit is done by making the medical profession midwife conscious, by enforcing the regulations, and by training those needed to supplement the delivery service in each county. It has been necessary to have jury trials to stop both malpractice of the registered midwife and the practice of the unregistered midwife.

The wholehearted cooperation of all physicians in the midwife control program will materially aid the State and County Boards of Health in accomplishing these objectives.

## BUREAU OF PREVENTABLE DISEASE CONTROL

D. G. Gill, M. D., Director

### POLIOMYELITIS VACCINES

Research workers have been attempting for a long time to find the cause of poliomyelitis and as a corollary to find an immunizing agent against this disease. That the causative agent is a filtrable virus is now generally accepted and it has been possible to immunize monkeys with this living virus. In the production of this immunity, however, a certain number of monkeys always developed paralysis so the method could not be used on humans.

Brodie,<sup>1</sup> from the laboratories of the New York Health Department, produced a killed vaccine from the spinal cord of infected

monkeys which he claimed would produce immunity. Similarly, Kolmer,<sup>2</sup> of the Research Institute of Cutaneous Medicine, Philadelphia, produced an attenuated vaccine for the same purpose. Both these vaccines have been used extensively during the past year and considerable doubt as to their efficiency now exists. Rivers<sup>3</sup> of the Rockefeller Institute for Medical Research, at the Southern Medical Association meeting in St. Louis, stated that no killed vaccine would produce immunity and that an attenuated, but living virus, would produce paralysis in a certain percentage of cases. This was the consensus of opinion of those who had used the vaccines this year.

Flexner<sup>4</sup> has summed up our present knowledge of these vaccines when he states:

(1) No adequate evidence has been presented showing that through the action of physical and chemical agents the virus of poliomyelitis may be attenuated so as to preserve its immunizing properties, while being deprived of its potential paralyzing power.

(2) The available evidence indicates that virus exposed to injurious physical and chemical agents is either inactivated (destroyed) or merely reduced in concentration. When the virus is actually destroyed, it no longer possesses immunizing power; when it is reduced in concentration, it immunizes certain animals and may paralyze others. The proof that the treated active virus has not been attenuated is provided by the recovery of fully active virus from the paralyzed animals.

(3) No evidence exists showing that passage of virus through monkeys removes its power to infect and produce paralysis in man. On the contrary, we possess convincing observations which show that an indeterminate number of passages of virus through human beings does not deprive it of its potential paralyzing effect when injected into monkeys.

No large amount of poliomyelitis vaccine has been administered in Alabama, but on present evidence its use should not be recommended.

(2) Kolmer, J. A.: Klugh, G. F., and Rule, Anna M.: *J. A. M. A.* 104: 456-460 (Feb. 9) 1935.

(3) Rivers, Thomas M.: To be published.

(4) Flexner, Simon: *Science*, 82: 420-421 (Nov. 1) 1935.

(1) Brodie, Maurice: *Am. J. Pub. Health.* 25: 55-67 (Jan.) 1935.

## SYPHILIS

## TREATMENT AND INVESTIGATION

Will treatment be sufficient to control the spread of syphilis? Yes, provided every case of syphilis voluntarily seeks advice and treatment and remains under treatment until the disease is arrested. But this is a Utopia that will not be realized for many years to come. It has been shown in a recent study that over one-half the males and two-thirds of the females with syphilis do not seek treatment until after they have had the disease a year or more.

Will investigation alone of every case of syphilis be sufficient to control the spread of the disease? No, to find the source of new cases and the various contacts of cases is quite a useless gesture if nothing else is to be done. Syphilis is not spontaneously eliminated from the body. Treatment is one of the requisites for control of spread and arresting of this disease.

Will treatment and investigation control the spread of syphilis? Yes, if properly, efficiently and expertly carried out. If each fresh case were investigated for source contacts and spread contacts and the case and all infected contacts were brought under treatment, syphilis as a public health problem would rapidly decline.

## BUREAU OF SANITATION

G. H. Hazlehurst, Director

## MALARIA CONTROL AND SANITATION

UNDER THE W. P. A. PROGRAM

Succeeding the A. R. A. program in Alabama, the W. P. A. was inaugurated in the month of June 1935. At the beginning of the program, the State Health Department was asked to participate, as sponsors of state-wide malaria control and sanitation projects. In accordance with W. P. A. rules and regulations, projects were submitted for its approval, together with a breakdown of labor by counties.

Contained in the projects are certain control figures which must be adhered to in their operation. These figures in the main are percentages of the total federal cost of relief labor, superintendence, materials, rental and other items, together with the cost per man per year. In brief, the malaria control projects as approved contained the following items: Labor, 5,020 common laborers; 100 intermediate or timekeepers; 231 skilled or foremen; 35 county supervis-

ors; and 21 drag line operators. Draglines, engineering instruments, dynamite, tools, etc., are also included in the projects. The above was based on working in all of the 67 counties in the State.

The sanitation program as approved contained the following items: 768 common laborers; 225 skilled men or carpenters and 32 county supervisors. Money was also provided in the project for transportation and operating material.

As may be seen from the above items, funds were set up in the project and approval given for the efficient operation of both projects. For instance, adequate money is provided for the proper supervision of both projects, also tools, equipment, material, transportation, etc. The set-up was quite a contrast to the preceding A. R. A. program, in which only relief labor was granted to the individual programs. Under such a program the Health Department was limited in its scope of operation as no supervision was provided in the project and direction of the work was dependent on personnel attached to the local health units.

It was agreed that no project would be undertaken in a county employing a supervisor with less than a certain number of men assigned to the job, which was arbitrarily set at 40. This procedure was to hold the projects within the percentage limits allowed. However, it was agreed to accept any number of men up to 40 in counties supporting a sanitation officer attached to the local health unit, contingent, of course, upon acceptance by the County Health Officer. Adopting these principles it was possible to take advantage of any number of men that would be available to the project.

In the question of the two projects, malaria control and sanitation, all percentages, man-year cost, etc., were to be calculated in the central office, not as an individual county project but considering the State as a whole. The supervision of both projects was to be combined where feasible and consequently the percentage of supervision to be averaged between the two.

When the central office of the W. P. A. received approval of the two projects from Washington, a conference was held with the officials to determine the first counties in which to put the programs into operation. Six counties in the northern portion



of the State and two in the central and southern portions was released on July 11, 1935.

These counties were chosen by the W. P. A. on the merit of available relief labor. A total of 986 men were released in these eight counties on the malaria control program and a total of 88 men on sanitation. A supervisor was placed in each of the eight counties with the exception of one when it was found that the labor released was not available. This personnel was chosen and nominated by the Health Department and paid by the W. P. A. to give direction to the work.

As the program progressed, labor was released in a total of 34 counties on the malaria control project, but due to other projects absorbing labor in various counties wide dispersion of available labor and various other difficulties 15 counties were either never operated or have been discontinued. At the present writing, the greatest number of men employed on the malaria control program as taken from the progress reports was 2,021. With the approval of various other projects for operation, including those under the P. W. A. that are required to use relief labor as far as possible, it is reasonable to expect that such construction projects as sponsored by the State Board of Health were carrying their peak loads near the beginning of the W. P. A. and as time goes on the other projects are put into operation labor will be drawn to a large extent from the malaria control and sanitation projects.

Near the beginning of the program it was decided to utilize the operation of a dragline, as provided in the State project, in a western county where the work was decidedly adaptable to the use of heavy equipment. To keep the man-year cost within allowable limits it was found necessary to assign 100 men to the county project. Upon beginning work it was found that only some 40 men were available. However, the W. P. A. officials have recently given their approval to this particular project with the labor now available, although the cost will exceed slightly the allowable man-year cost.

To relieve the state-wide malaria control project of the burden of draglines and to gain an increase in the man-year cost, additional projects were submitted for operat-

ing heavy equipment in two other counties. Due to conflict of projects, county and State, bureaus in Washington have been reluctant to give their approval. Recently it was decided, after conferring with W. P. A. officials, to operate one of these counties on the State program. Arrangements have been made to proceed on this basis and at this time the W. P. A. is negotiating for the proper equipment.

It is expected that dragline operations will begin on these two major malaria control drainage areas in the near future, eliminating foci impractical to undertake with labor using hand tools.

## BUREAU OF VITAL STATISTICS

Leonard V. Phelps, Director

### RESOLUTIONS THAT COUNT

Resolutions that count for something invariably exact a real expenditure of effort on the part of the person making the resolution.

Every physician has an opportunity to make at least one worth-while resolution for 1936. It concerns the registration of births.

For more than a quarter of a century births have been registered at the Bureau of Vital Statistics of the State Board of Health. Every physician is, therefore, well aware of his obligation in this regard.

Alabama was not admitted to the U. S. Birth Registration Area until 1927 and for only one reason. The reporting of births was so poor that less than 9 out of every 10 births were reported. The minimum requirement of the U. S. Bureau of the Census for admittance to the Birth Registration Area is that at least 9 out of every 10 births be reported. Therefore, if every physician reports 9 out of every 10 births he attends, he has met only the minimum requirement in this regard.

It is true that the midwife delivers a large number of births, particularly among the colored population. Careful studies, however, indicate that the midwife is both more prompt and more complete in her reporting. What the midwife can do, can also be done by the physician.

If all physicians took full cognizance of the legal value of birth registration to their client, it would not be necessary to discuss this obligation, which is a legal, social and

moral one. The fact that an estimated number of at least 7,000 births go unreported each year means that carelessness has been permitted to rob the child of the registration of his birth.

Modern life is of such nature socially that to deprive the child of a complete and accurate registration of his birth is a crime of a serious nature. All too frequently it has been found that when the child has need for presenting the fact of birth (and all of them will sooner or later), the person whose obligation it was to file the birth certificate cannot be located or has subsequently died. Such situations are of all too common occurrence.

Last year there were recorded 64,034 births and of that number 40,966 or 64 per cent were attended by a physician; the remaining 23,068 births or 36 per cent, by a midwife or person acting in that capacity. Even granting an equal excellence in the reporting of births by physicians and midwives, it can readily be seen that with an estimated number of 7,000 unreported births, at least 4,000 births were unreported by the physician. The figures indicate that an average of approximately two births per year are unreported by each doctor. That seems a small number, but when it is remembered that there are about 2,000 registered physicians in Alabama, the total of more than 4,000 unreported births plainly indicates that the doctor is all too frequently failing to meet the legal, social and moral responsibility of filing the birth certificate.

Various excuses have been given from time to time for failure to report births. Almost all of them are without foundation. One of the most important reasons is the procrastination so often practiced in completing the birth certificate. The physician should carry with him a copy of his "Pocket Bedside Record" or, better still, a blank birth certificate and fill it out immediately following birth. Such practice will insure both a more complete and accurate certificate. To wait until he shall have leisure time in which to do it usually proves fatal. The busy doctor must "take time" to complete the certificate and file it within five days with the local registrar of the district in which the birth took place. He is obligated to do so under the law, but the social and moral obligation involved should be all

that is necessary to effect prompt registration.

Another excuse which has been given is that the physician does not know who the registrar is, with whom he should register the birth. A roster of every local registrar, giving the name, location and the district of which he is registrar has been prepared and mailed to every physician in the State. Every local registrar is charged, under the law, with being responsible for the registration of every birth occurring in his registration district and if the births are registered in some other district, which is frequently done, because it is more convenient for the attendant at birth, one of the fundamental laws of birth registration is defeated. If the birth certificate is filed in some other district, the registrar does not know whether such to be the case or whether not filed at all.

Still another excuse sometimes made is that particulars concerning the birth were written on a loose piece of paper, which was accidentally misplaced before it could be recorded and no attempt having been made to get the information again, the birth was never registered.

The law requiring the registration of births has been in effect for many years. The parents of children today have come to expect this service of their physician.

Because of the great value of birth registration to the child, the community and the State, the Bureau of Vital Statistics urgently requests that every physician resolve that during 1936 he will report every birth which he attends promptly, and, in every instance within five days of the date of birth, with the local registrar of the registration district in which the birth took place.

The importance of birth registration, both from a legal and public health standpoint, cannot be emphasized too strongly. If each physician who attends a birth in 1936 will make a special point of registering each birth, we shall have about 4,000 more births registered than would have been registered otherwise. The completeness of registration will be made better than it has ever been. Other states have attained a figure as high as 99 per cent complete. Alabama can, with the help of every doctor, do the same.



## Woman's Auxiliary

Mrs. Thos. E. Dilworth  
State Publicity Chairman  
Huntsville, Ala.

The Madison County Medical Society was entertained by the Woman's Auxiliary on December 19, 1935, the occasion being our annual Christmas banquet. Each year they are accorded this courtesy. Dinner was served to the twenty-three members and their wives and a few additional guests. A most enjoyable program was rendered in connection with the distribution of gifts to each doctor, and dancing was enjoyed in the late evening.

The Woman's Auxiliary to the Jefferson County Medical Society met Tuesday, December 10th, at the home of Mrs. Dyer F. Talley. Forty-one members and guests were present. After the luncheon Dr. M. Y. Dabney gave a most interesting and instructive talk on "The Life of Madame Curie." Mrs. Harrison gave a report of the Auxiliary meetings at the Convention of the Southern Medical Association which was held recently in St. Louis. The yearly report of the Treasurer was given and Mrs. Wood, the President, gave a complete summary of the year's work. Mrs. James L. Jordan, our State President, from Huntsville gave an inspiring talk on, "What Auxiliary Members Should Know." Mrs. N. N. Wood was reelected President of the Auxiliary.

The Jefferson County Auxiliary has given one hundred and fifty dollars to be used to redecorate their clinic building. Members also brought infant garments for a shower for the babies of the Salvation Home. These garments were a special Christmas gift from the Auxiliary.

The Woman's Auxiliary to the Jefferson County Medical Society at Bessemer also



MRS. W. M. McKISSACK  
Huntsville  
Treasurer of The Auxiliary

entertained the Medical Society with a Christmas dinner.

In an inspiring talk by Mrs. James L. Jordan, our State President, we were reminded of the objects of our Auxiliary: First, through its members to extend the aims of the medical profession to all organizations which look to the advancement of health and education; second, to assist in the entertainment at all medical conventions; third, to promote acquaintanceship among physicians' families, that fellowship may increase; and fourth, to do such work as may be approved from time to time by the County Medical Societies and the State



and American Medical Associations.

May the New Year bring each member peace and contentment and may we continue to go forward under the able direction of our beloved President.

## Book Abstracts and Reviews

**The Human Foot:** By Dudley Joy Morton. Columbia University Press, New York City. 1935. 244 pages with 100 illustrations. Price \$3.00 net.

The lack of attention on the part of the medical profession to diseases of the feet has been responsible for the establishment of a profession devoting its entire time to this one part of the human body without adequate training in anatomy or physiology, bacteriology or surgery. Perhaps to a large extent the cause of this neglect lies in the fact that the profession has devoted so little time to scientific investigation of the normal and diseased human foot. Doctor Morton has made a very detailed study of the foot and has acquired an understanding of its mechanism by a study of the evolution of the muscles and bones of the foot in primates, prehistoric man and modern man. On the basis of the knowledge derived from these studies, the author is in a better position to explain the mechanics of fallen arches and the means of correcting them. Many of his studies have been made with the x-ray, the staticometer and the kinetograph. In his opinion most of the disturbances in the arches of the feet are due primarily to certain anatomical peculiarities of the foot—chiefly a relative change in relation of the length of the first and second metatarsal bones. The author's work is entirely original and contains material not available elsewhere. The orthopedist should find this book of especial interest though the general practitioner may well use it to practical advantage.

C. K. W.

**The Stomach and Duodenum:** By George B. Eusterman, M. D., F. A. C. P., Head of Section in Division of Medicine, The Mayo Clinic, Professor of Medicine, The Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota; and Donald C. Balfour, M. B., M. D. (Tor.), LL.D., F. A. C. S., Head of Section in Division of Surgery, The Mayo Clinic, Professor of Surgery, The Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota; and Members of the Staff, The Mayo Clinic and The Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota. 958 pages with 436 illustrations. Philadelphia and London: W. B. Saunders Company, 1935. Cloth, \$10.00 net.

From the Mayo Clinic comes a volume of exceptional value. Written by Eusterman, Balfour and almost a dozen other members of the department of gastro-enterology of the Mayo Clinic, it reflects the experience of a whole group of physicians working together, and despite the multiplicity of authors, its material is unusually well coordinated. It covers completely the clinical application of our clinical, experimental, surgical and pathological knowledge of the stomach and duodenum. Both medical and surgical aspects are equally considered without emphasis on either.

There is an excellent analysis of the causes of dyspepsia, an outstanding chapter on x-ray diagnosis, and a practical chapter on the medical treatment of gastric and duodenal ulcers. Without a doubt this is the most outstanding volume on the diseases of the stomach and duodenum that has ever been published.

C. K. W.

**Surgery: Queen of the Arts and Other Papers and Addresses:** By William D. Haggard, M. D., F. A. C. S., D. C. L., Nashville, Tennessee. Professor of Clinical Surgery, Vanderbilt University School of Medicine; Surgeon to Vanderbilt Hospital and St. Thomas Hospital; President, Southeastern Surgical Congress; former President of the American Medical Association, the American College of Surgeons, the Interstate Postgraduate Medical Association of North America, the Southern Surgical Association, and the Tennessee Medical Association; Formerly Lieutenant-Colonel, Medical Corps, U. S. A.; Consultant in Surgery, Mesves Hospital Center, A. E. F. With Foreword by William J. Mayo. 389 pages with 41 illustrations. Philadelphia and London: W. B. Saunders Company, 1935. Cloth \$5.50 net.

William D. Haggard is one of the most fluent after-dinner speakers to whom the reviewer ever had the pleasure of listening. The words flow from his lips, not like a gurgling mountain stream but rather with the speed and force of a waterfall. His style is like that of the school-day oratory of the turn of the century. He possesses wit, charm and beautiful diction. Behind what he says one can sense a tremendous store of knowledge gained less from books than from practical experience. No written word can convey to the reader the same pleasure that one might obtain from listening to Doctor Haggard's speeches, but one who has heard him before can readily visualize the author in his favorite role of after-dinner speaker addressing a group of his colleagues.

In "Surgery: Queen of the Arts" the author has presented a number of essays, some dealing with general medical topics and medical history, others devoted to scientific studies. His writings cover a large field of surgery including diseases of the thyroid gland, diseases of the biliary tract, and surgery of the breast, kidney and intestinal tract. The scientific papers are characterized by keen clinical wisdom and the other essays should prove delightful fireside reading to those who enjoy looking into the lives of famous medical men of the past.

C. K. W.

**A Textbook of Bacteriology:** By Thurman B. Rice, A. M., M. B., Professor of Bacteriology and Public Health at the Indiana University School of Medicine. 551 pages with 121 illustrations. Philadelphia and London: W. B. Saunders Company, 1935. Cloth, \$5.00 net.

This is a volume which should appeal to the medical student and to the practitioner of medicine who is interested in doing his own bacteriological work. To the trained bacteriologist it will offer little of interest, for its chief virtue lies in its simplicity, its lack of controversial discussion and the absence of detailed and complicated technical descriptions. It describes not only the true bacteria but the viruses, higher bacteria, pathogenic molds and protozoa. It appeals to the reviewer as the best student's textbook of bacteriology he has ever read. The reviewer is also impressed with the concise description of the various pathological manifestations following infection with each of the pathogenic organisms described.

C. K. W.



## Miscellany

### DO YOU KNOW?

(A release of the Medical Society of the State of New York)

Who can think of Christmas without thinking of giving—of helping others? Before there was any Christmas the pagan Romans fled from epidemics through fear and left the sick to die without care. Many Christians reversed this practice and, feeling it their obligation to stay and nurse the sick, and comfort the dying, were willing to sacrifice their own lives, if necessary, in serving the helpless.

San Francisco eye expert has recently confirmed the poet's statement that "Love is blind." He says that evidence shows defective vision among its victims. Dr. Walter C. Alvarez of the Mayo Clinic finds that many cases of indigestion are due to anxiety or intense emotion.

Poor housing is definitely a health hazard, according to studies of sickness and mortality in slum areas made by Rollo H. Britten, senior statistician of the United States Public Health Service, and recently published under the title: "The Relation Between Housing and Health."

Nature can't be fooled. The man or woman who neglects a cold, especially the cough that lingers, is not fooling Nature by denying its existence but may be inviting disaster through neglect. Most cases of tuberculosis enter sanatoriums in an advanced stage. The "wish to believe" overcomes ordinary common sense. Early diagnosis of tuberculosis and prompt treatment multiplies the hope for cure.

Eighty per cent of the education of the average child comes to him through his eyes, according to the National Society for the Prevention of Blindness.

Fear was considered a disease requiring medical attention by the Aztecs of Mexico. Modern psychiatry teaches us that it may produce positive physical symptoms. The spreading of knowledge of mental hygiene helps to reduce the consequences of an excess of fear.

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*Proc. Soc. Exp. Biol. and Med.*, 1934, 32, 241-245  
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*Med.*, 1934, 32, 241-245.

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All solid bodies are covered by a film of water or oil, often only the thickness of a molecule.

The germ theory of disease is much older than the discoveries of Louis Pasteur, with whose name it is associated because he was the first to make practical use of it. He produced serums for anthrax, rabies and other diseases. But long before Pasteur was born a 17th Century German scholar named Anthanasius Kircher noted that flies visit the sick and infect the well by contaminating their food. "Struggle and counter struggle," he said, "maintain life."

How old are poisonous snakes when they become poisonous? At the time they leave the egg, say those who have examined them for venom.

A new protein material in food which is essential to growth and life has been discovered by Dr. William C. Rose of the University of Illinois. It is classed as an amino acid. It was found that, when foods containing only the 21 previously known acids of this type were fed to animals, they declined rapidly and died. A search for the missing substance resulted in isolating amino acid No. 22. It can be prepared synthetically.

The skin is more than a protective covering for the body; its functions are essential for life itself. There are several contagious skin diseases. One which appears to be increasing is a certain kind of wart. It is caused by a germ which enters the skin. Tuberculosis of the skin begins in imperceptible abrasions. Butchers sometimes get it from infected meat and other persons from contact with people sick with the disease.

Millions of meteors fall upon the earth each year, but they bulk so little in mass that billions of years would pass before the circumference of the earth increased one inch.

Are your children afraid of storms—do they cry when it thunders? Try bringing this fear out in the open. One mother, at each clap of thunder, cried "Boom!" and encouraged the children to outdo her in

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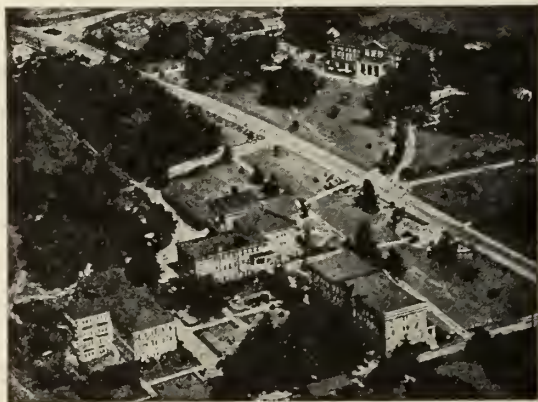
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noise making. Active enjoyment was the result, and soon thunder occasioned only casual comment.

Thunderstorms seem to have some effect on patients suffering from asthma, according to Drs. Tell Nelson, B. Z. Rappaport, William H. Welker and A. G. Canar, of the Illinois Medical College, Chicago. They found that patients improved when kept in an air-conditioned room, but thunderstorms affected their condition unfavorably.

The rumor continues to circulate that cancer has increased proportionately to the use of aluminum cooking utensils. This may be true, merely because both have increased, but it does not indicate that cancer is a result of eating food cooked in these utensils. There is no scientific basis whatever for the statement.

Canning of fruits and vegetables originated when Napoleon offered a prize for some method of preserving perishable food. The prize was won by Nicholas Appert, who cooked the food, packed and sealed it in airtight containers. Nobody at that time knew why this worked. Forty years later Louis Pasteur announced that micro-organisms cause decay, and that heat kills them and sterilizes food.

It costs six times as much to cure a tuberculosis patient as it does to teach him how to avoid it.

Science has not yet provided a satisfactory answer why certain animals sleep for long periods during the winter.

Scarlet fever is a disease which parents may fear with good reasons. It occurs in periodic outbreaks. Between epidemics, it is more or less prevalent during the winter. To guard the home from scarlet fever, it is important to keep children away from persons who are ill and to isolate the sick. The Dick test determines whether or not a child is susceptible to this disease, and there is an antitoxin for protection following known exposure and a different treatment for immunization in anticipation of exposure. Still another is valuable in the treatment of the known disease.

While it is unusual to encounter common towels in public places, the common drinking cup has not been so well eradicated and presents a frequent danger to the public.

Dr. Oliver Wendell Holmes never heard of ultra-violet rays or vitamins, yet he said: "Men and women must have sunshine to ripen them as much as peaches."

School days can be made safer days if boys and girls are taught to walk along the left side of roads, facing traffic.

British highway engineers are trying out orange colored concrete roads, claiming they prevent accidents by reducing the glare of the sun by day and the dazzle of headlights by night.

If you care to really find out how far the world has advanced, take a day off and attend one of your public schools, comparing it with what was offered by the school you yourself attended.

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### TRENDS OF MEDICAL PRACTICE

By

JAMES S. McLESTER, M. D.

Birmingham, Alabama

The whole world is changing, and particularly is this true of that field of world endeavor in which you and I work, the field of medicine. Some may regard these changes as irksome and difficult to follow. Others, learning to interpret their significance, find in them an intellectual stimulus and a guide to greater achievement. In every sphere of medical practice, innumerable, apparently unrelated trends are to be seen. Witness the critical attitude that has developed toward serums and vaccines in septic types of infection, the healthy skepticism, tinged with hopeful expectancy, that has come to take the place of an all-too-prevalent enthusiasm in the field of endocrine therapy, and the way in which physiotherapy, once the tool of the charlatan, is now being given more accurate appraisal and a wider usefulness. Consider, too, the disappearance of the old-time Sphinx-like mystery of medicine and in its place the open frankness of the physician. These are some of the minor trends. Important as they are, they recede into relative insignificance when compared with the one major trend which, as I see it, has come today to dominate all clinical thought. This last has brought the physician to a new vantage point from which, with an ever-widening vision and an infinitely better perspective, he looks upon the patient as a whole, not upon a disordered organ or a single disease process, but upon the man himself. This signalizes the medical practice of today.

No longer in an enlightened medical world is man looked upon simply as an aggregation of tissues and organs, each of

which must be treated as a distinct entity, or as the victim perhaps of some physiologic disorder or bacterial invasion upon which alone all therapeutic endeavor must be centered. The organs that are known and the physiologic processes that have been defined do not alone make the man. There is something else. Other still more subtle forces are at work, emotional, psychological, chemical, and of other nature, some of them well characterized, others obscure. These forces contribute materially to the making or unmaking of man's health and happiness, and for the astute physician they are assuming constantly greater importance. The medical practice of 20 years ago has traveled a long way in progressing from considerations of local pathology to those of general physiology. Today, the man himself comes first.

In opposition to this it might be argued that the success of a new type of medical organization, the group clinic, indicates a trend in the reverse direction. True, the work of the clinic in its division of interests presents many advantages that appeal to the imagination, but this is not a representative type of practice. In the group clinic the patient is studied by a number of specialists, each highly skilled in his own field, and it is assumed that when the contributions of these are all pieced together a comprehensive clinical picture will be obtained. I doubt if this assumption is entirely correct. The difficulty is that only too often, in the intensity of these individual studies, the patient himself is forgotten. In this type of examination there is little opportunity for the intimate personal touch, the appraisal of values, psychological, emotional, spiritual, and intellectual, and the sympathetic understanding of human problems, that prevails in the ideal relationship of physician to patient. Group practice has its place

—a highly important place—and its continued success within a limited field is assured, but this is not the way the country over to practice medicine. The family physician of today with the broad cultural background that was demanded of him before he was permitted to embark upon the study of medicine, the technical training that was given him in the modern school, and the all-embracing vision acquired from his work, is the man who, as a rule, can best understand the sick person. It is he who is best prepared to care for the patient as a whole.

A great physician is quoted as saying that it is more important to understand the man that has the disease than the disease that afflicts the man. Impressed by the truth of this I cannot help but feel that the custom of many physicians to delegate to an assistant the taking of the history and to reserve to themselves merely the physical examination is just the reverse of the ideal, for the former admits of a vastly greater degree of skill than does the latter. Any well trained assistant can make a trustworthy physical examination, but it takes experience, tact, and a sympathetic understanding of men to get full value from the taking of the anamnesis. Witness the manner in which the wise physician of today approaches the sick person. He looks upon him as a human being with an infinite variety of psychic and emotional reactions, and, consciously or unconsciously, he endeavors to envisage the patient's entire background. He scrutinizes the motives that actuate him, the manner in which he reacts to the vicissitudes of life, and the things that underlie his happiness or unhappiness. My faith in psychoanalysis in the usually accepted technical sense is not great, but I have unbounded faith in the easy, informal, unrestricted friendly conference between physician and patient. The patient's facial expression, his emphasis upon details, his attitude toward his surroundings, the manner in which he tells his story, and what he fails to relate as well as what he tells are all of significance. As the physician looks into the patient's face and listens to his story he often gets an insight into the man, an insight of such revealing intimacy as perhaps the man himself has never been able to achieve. In this way he gets his measure of the man, and having this he can with infinitely greater

clearness understand the nature of his disabilities.

This broader conception of the patient that has been acquired by the physician of today is expressed in a better understanding of the diseases to which man is subject. Pneumonia, for example, is no longer looked upon merely as a disease of the lungs. In treating this disease the physician of today gives much more thought to the patient himself, to his color, his facial expression, his sensorium, his skin and his circulatory apparatus, than to his lungs. He has learned that to turn the patient over and examine the lungs on each visit is well nigh fatal, and that it is infinitely better to neglect the lungs, even the heart, and, discarding all meddlesome therapeutics, to devote his attention to the protection of the whole patient. Such considerations are not confined to acute disease; they apply with equal force to many chronic diseases, such for instance, as pulmonary tuberculosis. No longer is it the almost invariable custom to remove the tuberculous patient from his home in order to send him to another part of the country in which, however favorable the climate, he may be lonely, homesick and uncomfortable; or to transfer him from a relatively unfavorable occupation in which he is contented and successful to a more favorable one in which perhaps he is unhappy or in which he may find it difficult to earn a livelihood. Even peptic ulcer, sharply localized as it is, is not beyond the influence of such general physiologic factors as comfort and contentment, as was demonstrated when, following the financial crash of 1929, a large number of the old ulcer patients immediately returned to their physicians. The complete about-face in the treatment of typhoid, which many of us witnessed 25 years ago, is a pertinent example. The patient of that day was starved to a grievous extent because the physician thought only of the local pathology of the ulcers of the intestines. Now the intestinal ulcers are almost forgotten and the entire patient, with every regard for his general physiology, is given full consideration with the result that, being adequately nourished, he no longer presents the desperate picture of an earlier day. A similar shift of clinical thought is evident in nephritis. The tendency today is toward a much broader conception of



Bright's disease, and physicians are coming to realize that the efforts of the past to protect the kidney alone were futile. The mistakenly rigid dietary restrictions of an earlier practice have ceased to prevail, and physicians appreciate the fact that, in order to promote recovery or to insure to the person so handicapped continued usefulness for the longest period of time, adequate nutrition and the best of general hygiene are demanded. General physiology comes first.

Even pernicious anemia is no longer regarded simply as a disease of the blood. Physicians see in it a nutritive disorder which, in its ramifications, probably affects the entire human economy. Likewise, the nutritive disturbances of diabetes mellitus are no longer looked upon as limited to a single physiologic area, and nutritive processes as a whole rather than carbohydrate metabolism alone are being given consideration. In the higher carbohydrate diet now in vogue in this disease is to be seen an effort adequately to meet the needs of the entire human economy rather than to deal with a single metabolic fault.

This broader perspective which characterizes the vision of the physician of today is evident in every field of medical practice and has influenced even the views of laymen. Witness, for example, the very wholesome drift toward common sense in nutrition. For a decade or more this relatively new science has had a strong appeal to the popular imagination, for when the vitamins were discovered and the essential nature of certain mineral elements first became generally known a new interest in food was excited and attention was sharply focused on these newer things. Perspective was often lost, disproportionate emphasis was laid on the necessity for an abundance of vitamins, and there sprang up fads galore. Nature fakirs found this a fertile field and insisted that for the preservation of robust health a person should eat solely of native foods, whole grains and raw vegetables. Even physicians sometimes devoted so much attention to single food factors that little thought was given to general nutritive principles. Today, however, the trend is toward a more comprehensive understanding of man's physiologic requirements. Refined foods such as white breads are now recognized as having a legitimate

place in the diet, and even the much maligned muscle meats, poor as they are in many important nutritive elements, are, because of the high biologic value of their proteins and their specific dynamic action, again finding favor.

I hasten to add that, in thus securing a more comprehensive view of man's food requirement, the physician has not permitted the disorders which arise from avitaminosis, mineral deficiency, and other forms of nutritive failure to pass out of focus. Far from it. The discovery of the wide prevalence in America of deficiency diseases, some of them borderline and obscure in nature, others outspoken and clearly defined, represents one of the signal advances of modern clinical medicine, and the great importance of these diseases is being recognized with ever increasing clearness. But the shift of opinion today indicates that, for the preservation of robust health under the ordinary conditions of life, emphasis should be placed not alone upon a selected group of food factors but rather upon the necessity for a liberal diet that includes in adequate amounts all nutritive essentials. A broader conception of man's physiologic needs has come to prevail.

Breadth of vision and depth of understanding, whatever the field of endeavor, are valuable assets always. This is signally true of the field of medicine, and it is heartening to note that in the medical progress of the past decade the major trend has been toward the more universal development in the physician of these important attributes.

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#### Webbed Fingers and Supernumerary Digits—

These are among the less serious of the defects which may be observed at birth, but they demand attention for cosmetic reasons. Observing ordinary sterile precautions, thin webs, loosely connecting fingers or toes, may be clipped just as the frenulum of the tongue is clipped to relieve tongue-tie. Small supernumerary digits joined to the hand or foot by narrow pedicles of soft tissue, may be cut off cleanly, and the tiny defect will heal with nothing but a minute scar remaining. When more solid webbing occurs, and when supernumerary digits have bony connections with the hand or foot, plastic operations are best deferred until the age of two years or older.—*Duckett, Texas State J. Med., Jan. '36.*

## DIABETES

MANIFESTATIONS AND DIFFICULTIES IN  
TREATMENT

By  
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Gadsden, Alabama

Although the condition known as diabetes has been described in medical writings since before the time of Christ and our knowledge of its pathology and treatment has grown by leaps and bounds in the last fifty years, it is now listed as "one of the leading causes of death in this country" by Joslin, Dublin and Marks<sup>1</sup> as a result of their study of available mortality data in America and abroad. They tell us the "diabetes death rates are increasing all over the world" and the rate "in this country is higher than in other parts of the world."

With this information before us, we thought it worthwhile to present certain facts from the records of a few patients, illustrating some of the manifestations of the disease and some of the difficulties encountered in its treatment.

In this condition, the onset is usually gradual. Often an insurance or routine examination gives the first knowledge of its existence to the victim or one of its complications causes the first visit to the physician. Frequent passage of large quantities of urine, increased thirst and appetite are the usual first symptoms, with constipation accompanying them, and loss of weight generally proportionate to their severity. If the individual does not heed these warning signs, in due course of time he develops manifestations of one or more of its numerous complications. If thirst, polyuria and increased appetite are not noted or present to a slight degree, the individual may consult his physician because of recurring boils, pruritis, eczema or other skin lesions; pain or numbness, tingling or weakness in the extremities; a cough with fever and loss of weight or because of headache, drowsiness and thick speech or other signs of impending coma.

Several years ago we saw a graduate nurse who was not known to be diabetic until she was found unconscious by her roommate. Examination revealed marked

glycosuria and acetonuria and a markedly elevated blood sugar with no evidence of cerebral injury or neoplasm or of uremia. Going to the other extreme, we were recently asked to handle the medical treatment of a young woman who entered the hospital for the removal of a large uterine fibroid. Routine urinalysis revealed specific gravity 1033, sugar 4-plus and acetone 4-plus. The patient had noted polyuria and increased appetite for about two months but they were not sufficient to cause her to seek medical attention.

Some patients give the usual symptoms of diabetes in their complaint but stress some one complaint that is not so commonly present, as illustrated by a young man 22 years old who had consulted his physician fifteen months previously because of thirst, hunger, and polyuria, weakness and abdominal discomfort. He reported being put on a diet for "acetone" and for three months had taken insulin but with no degree of regularity—often going for a week at a time without it. He complained that his abdominal discomfort was worse and he thought made worse by the insulin. Examination revealed marked undernutrition, generalized abdominal soreness and infected tonsils; a fasting blood sugar of 240 mgms.; urinary sugar 4-plus and acetone one-plus. Gastric analysis and stool specimen revealed no evidence of pathology in the gastrointestinal tract and we were unable to get information suggesting that he was allergic to insulin. We felt the discomfort was due to constipation, which he said was severe.

This case typifies our utter dependence on the wholehearted cooperation of the patient if we are to accomplish any worthwhile results. When better adjustment of diet and insulin was suggested, the patient left with the statement that he did not want to take insulin—it cost too much and made him feel badly. He was not seen again for six months, at which time he reported not taking insulin until three weeks previously when he became acutely ill and his physician told him he would have to "take insulin or die." He elected to take insulin and had done so. At this time the undernutrition was more marked—he weighed 125 pounds and was six feet one inch tall—and there was a heavy acetone odor on the breath and 4-plus acetone in the urine. He reported

1. Joslin, E. P.; Dublin, L. I.; and Marks, H. H.: *Am. J. Med. Sci.* 186: 753, 1933.



less trouble with constipation and there was less abdominal discomfort.

Furuncles, carbuncles, and pruritis seem the most frequent cutaneous complications but an itchy eczema and xanthoma diabeticorum also occur; and, in the elderly diabetic, gangrene of the toes and feet is not an infrequent or inconsequential occurrence. In the female, an itchy, inflamed skin lesion may develop on the vulva and perineal region and prevent sleep and otherwise make the patient very miserable. It happens that the cases we have seen have been in young women with severe diabetes, as in the case of this girl, 16 years of age, who noticed gradual onset of symptoms ten months previously. Obstinate constipation has been present since onset of symptoms and loss of weight rapid—27 pounds in two months. At this time she was hospitalized and improved rapidly on a regulated diet and insulin, but following her return home did not weigh her food and when we first saw her all her former symptoms were present except that she was well nourished. In addition, she complained of a very itchy skin lesion in the perineal region of three weeks' duration and a similar lesion about each corner of the mouth of one week's duration. The important findings on examination were irregular, red, moist areas at the angles of the mouth and covering the vulva, perineal region and gluteal folds; blood sugar 333 mgms.; twenty-four hour urine specimen of 3520 cc. with one-plus acetone and 3.4% sugar. The patient adhered to the diet ordered for one week but took only a little more than half the required amount of insulin daily. Nevertheless the urinary sugar was appreciably reduced, the skin lesion about the mouth cleared up entirely and the perineal region improved very much. This patient apparently adhered to insulin as ordered after the first week but did not adhere to her diet and the skin condition was an index of her irregularities in this regard.

A thoroughly cooperative patient can be greatly benefited, however. We should like to give a more encouraging story of a patient manifesting several complications. This patient, a woman 60 years of age, was a known diabetic of about two years' duration and the only treatment had been the substitution of saccharine for sugar in the

diet. She was still troubled with thirst, polyuria and hunger. There had been eczema of the legs and hips for five years, not relieved by x-ray treatments over a period of one year. Pain in the right shoulder and arm had been constant for two years and removal of her teeth four months previously had given no relief. There was a profuse and annoying vaginal discharge. At this time the blood sugar was 212 mgms., the 24-hour urine amounted to two gallons and contained 41 gms. of glucose. After two weeks on a maintenance diet low in carbohydrate and no other treatment, the 24-hour urine amounted to 28 ounces, containing 2 gms. of glucose; her pain, skin lesion and leucorrhea had entirely cleared up and her only complaint was a marked reduction in appetite.

A less common skin complication and one relatively non-irritating to the patient is the condition known as xanthoma diabeticorum, as illustrated in the case of a young man 27 years old who had the usual symptoms of diabetes and was on a moderately restricted diet for two years when he began to lose weight rapidly and to be troubled with nausea and vomiting. At this time round and oval, red, firm, slightly elevated areas, some with yellow centers, appeared on the legs and a few on the thighs. These areas were not painful, but itched markedly when rubbed by his clothes or bed clothes. When insulin therapy was begun, his symptoms disappeared and also the nodules which left dark brown scars that were still present when I saw him six months later.

The treatment of these complications of diabetes is essentially the treatment of the disease itself, except in cases of gangrene—when, of course, surgery and the control of the diabetes are both necessary. In diabetics with medical conditions not directly associated with the diabetes, the treatment of both conditions is of course essential.

In treating diabetics each individual patient must be handled according to his special needs; but there are certain fundamental principles to be followed in all cases. We try to render the urine sugar free, and keep it sugar free; we should give enough protein in the diet to care for the individual need; and a sufficient number of calories to allow the patient to maintain a satisfactory weight and follow his usual occu-

pation. Enough insulin is given to accomplish these ends.

Since insulin has come to revolutionize our methods of treatment, we have advocates of a low carbohydrate-high fat diet and also those advocating a low fat and very high carbohydrate diet with large doses of insulin. Both methods are advantageous at different times; but, as a general rule, if we give a relatively low carbohydrate and relatively high fat diet, the patient does not run a great risk of acidosis and does not have as heavy expense in buying insulin—which is no small matter to many afflicted with this ailment. We try to adjust the usual patient on a diet giving one gram of protein per kilogram body weight, carbohydrate equal to but seldom twice that amount and sufficient fat to make up the caloric requirements—allowing 30 calories per kilogram as maintenance requirements and adding 20 to 50 per cent, depending upon the occupation. Insulin should be adjusted to care for this diet and changes made in both when indicated.

In order to properly cooperate, the patient must be taught in detail the weighing of the diet, the relative value of different foods, the proper measuring of insulin doses and the sterilization of syringe and needle. Often, because of the economic or mental status of the patient or for other reasons, it is advisable to measure the diet (using tablespoons and cups full, etc.) instead of weighing it. As mentioned previously, it is impossible to adequately manage the treatment in an uncooperative patient.

Patients with marked acidosis and those in coma require constant attention and vigorous treatment. We strive to overcome the dehydration, the hyperglycemia and the acidosis as rapidly as possible. It is well to have a blood sugar determination as soon as possible and to give a large dose of insulin, the size being determined by the blood sugar. Then we should give large amounts of fluids at frequent intervals, and glucose by mouth or vein, with insulin subcutaneously every two or three hours. The amounts of glucose and insulin should be regulated by the sugar and the acetone content of the urine—which should be obtained at about two-hour intervals by catheter if necessary. When the acidosis has been

overcome and the urine sugar free or nearly so, we put the patient on a weighed diet of high carbohydrate content and controlled by insulin.

It sometimes happens that a comatose patient does not regain consciousness after the urine is rendered sugar free and acetone free and the dehydration overcome. The patient dies in a coma similar to a non-diabetic coma—this occurred in the case of the graduate nurse referred to above. The term diabetic toxemia has been used to describe this condition.

A severe diabetes or one complicated by another acute condition will often tax the physician's ingenuity. The patient with xanthoma previously referred to was an example. He was first seen when he entered the hospital because of edema, orthopnea and cough. The story was that he had a cold and six days previously had gotten wet and chilled. Four days previously he noticed edema of the ankles and had grown steadily worse. On admission the temperature was 99.6 and pulse 98, there was marked edema of the hands and forearms, face, feet and ankles, and some pitting on pressure over the thighs and buttocks. The abdomen was markedly distended with some dullness in the flanks, the diaphragm was pushed upward but we were unable to demonstrate fluid in the pleural cavities. The blood pressure was 148/74 and the urine showed four-plus sugar, four-plus acetone, four-plus albumin with many red blood cells and many hyaline and granular casts. He was kept in bed on a Karrell diet with insulin before the feedings, 40 gms. of glucose by vein daily preceded by insulin, hot packs to promote sweating and magnesium sulphate by mouth to aid in the elimination. He responded nicely but the building up of the diet was interrupted when, for two days, he ran slight afternoon fever and evidence of a head cold. At this time there was an increase of the albumin, blood and casts in the urine, which had practically disappeared and an appreciable amount of sugar in the urine on the same diet and insulin on which he had been practically sugar free. This demonstrates the very delicate balance in our diabetic patients and shows what a slight infection does to their carbohydrate tolerance.

In trying to regulate this patient's insu-



lin it was found that he excreted sugar from about 2 A. M. to about noon. On two occasions, he had mild insulin reactions after supper and did not call for orange juice as instructed. By 5 A. M., the mornings after, he was excreting sugar. Regulation of insulin in a case like this is often very difficult. A fasting blood sugar taken before breakfast was found to be 365 mgms., so the following day blood sugars were taken as follows: 4 A. M., 266 mgms.; just before supper at 5 P. M., 97 mgms.; and at 10 P. M., 222 mgms. It was found that we could keep him sugar free or practically so on a 2400 calorie diet with insulin, units 35, before breakfast and units 15 at 10 P. M.

Insulin reactions vary in severity from mild nervousness and sweating to epileptiform convulsive seizures and hemiparesis and are, in themselves, material for a paper. Suffice it to say here that they are all treated alike—by giving glucose.

## COUGH

### CAUSES AND SIGNIFICANCE

By

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A cough is a sudden, forcible expulsion of air from the air passages engendered by stimulation of the vagus and phrenic nerves and the sympathetic nervous system. Sometimes coughing is desirable, but it is usually a symptom which we should be happy to have disappear. When one considers the physical effort required for coughing it is with wonder that we observe the aged, the hypertensive and the cardiac patient coughing with apparent impunity.

As stated above, the mechanism of cough is set in motion by nerve stimuli, sometimes reflexly, sometimes central in origin, and sometimes by direct stimulation of the terminal nerve endings in inflammatory tissue. Any condition which then will create this favorable condition, i. e., the stimulation of the nervous system, will produce coughing. Among the causes are the following: the neurotic cough, middle ear disease, impaction of cerumen, postnasal obstructions or inflammatory disturbances, pharyngeal inflammations or neoplasms, paranasal sinus

disease, uvulitis, glossitis, hypertrophy or inflammation of the lingual lymphoid apron, tonsillitis, pharyngeal bursitis, laryngitis, tracheitis or bronchitis, esophageal inflammations; foreign bodies, either of the esophagus or air passages; pleurisy, pneumonia; pulmonary tumors, whether inflammatory or benign; mediastinal tumors or inflammations, hypertrophy of peribronchial lymph nodes, any purulent disease of the lungs, aortic enlargement; cardiac disease, whether valvular or simply hypertrophy of the organ; any enlargement of the cervical tissues which will bring pressure to bear upon the nerves mentioned above, reflex coughs from peritonitis, pelvic inflammatory disease, subphrenic tumefaction or inflammatory disease of the diaphragm, the hebetate cough of adolescence and the cough from acidosis, alkalosis or simple auto-intoxication; the traumatic coughs from tobacco, alcohol or drug addiction which are truly due to inflammation of the nerve endings themselves and to affections of the mucosa in which these nerve endings lie. One might continue to enumerate the causes of coughing but we have incorporated in this list the chief ones and we shall discuss briefly only the most important of those referred to.

It might have been better had we attempted to enumerate the causes of coughing and to classify them, but to delve so deeply into the subject would not suit the purpose of this short paper nor the time allotted it. I presume that the most common causes of coughing are diseases of the upper air passages, chief of which are influenza, laryngitis and acute catarrhal fever. Immediate in importance following the above causes come cardiac dysfunctions and those diseases and conditions which affect the upper air passages, such as pharyngeal neoplasms, hypertrophy of lymphoid tissue, sinus disease and middle ear affections.

Cough, which is nature's effort to express secretions and to warn of other troubles, is mechanically a very trying and exhausting experience for the patient as it calls for a great expenditure of physical energy. The entire cardiovascular system is severely taxed by the sudden contraction of the muscular system in closing sphincters, tightening up the thoracic and abdominal muscles

and generally preparing for the effort to be made. A slight cough is harmful enough, as the so-called "hacking cough" of the aged, but one which is severe in its paroxysms is tremendously harmful. The terrible cough of influenza, in which the patient, particularly the old or the one with serious hypertension, is liable to have a break in his vascular system, is one of the most difficult to control and one of the most exhausting which we observe.

Any cough which is constant is a serious menace to the health and safety of our patient, and the intermittent or spasmodic cough which is explosive in character is nearly as exhausting and is really more dangerous than the constant cough; witness the results at times of coughing in pertussis.

When a patient consults a physician because of a pain in his abdomen straightway the doctor begins to eliminate, if he can, various causes for the pain, until he finally has arrived at a satisfactory conclusion for the cause of it. Not before then will the intelligent doctor begin his therapy, unless there is serious doubt still in his mind and exploration is deemed wise, for pain in the abdomen may mean very little or it may mean very much and its treatment may well change the course of that patient's life. So it is with cough. When a patient presents himself to his doctor complaining of this malady, the physician certainly is obligated to the patient to the extent that he will search out every possibility for the cause before he masks it too much with some sedative which may blanket his further efforts to disclose the cause and which at the same time may allow a serious condition to develop, of which the cough was the warning.

One patient may complain of a cough which begins at a certain time, as, for instance, the sinus cough, which will perhaps help one to immediately find the cause; while yet another patient simply states that he has a cough which has nothing definite in its occurrence but which is exhausting him rapidly because of the muscular expenditure and the sleep which he is losing. Moreover, it is embarrassing. How many of our patients have found their entire lives changed by the existence of an apparently incurable cough! They must leave off attending places of common entertain-

ment, church or any social gathering because of the annoyance to others. How grateful they become when some physician ferrets out the cause of it and removes it for them!

How many times does the coughing patient obtain a prescription from his physician for some sedative which will probably temporarily control his discomfort but which does not in any way look toward the removal of the cause! Indeed, the cough may mask a defective heart, a pulmonary condition which may become blasting in its effect, some dysfunction of the upper air passages or some far-flung pathology, such as pelvic disease, uterine dysfunction or the onset of some serious illness. Coughing should be controlled for the patient but not until the cause has been determined if possible. One should seek diligently for these causes, ruling out systematically one by one until he has eliminated the most usual things; then search for more obscure causes, hoping that he may succeed in detecting and removing the aggravating one.

Some years ago a patient consulted us because of an incessant cough of a year's duration which had reduced his weight over a hundred pounds, leaving him weak and melancholy. The cause was found to be polypi (myxomata) of the left middle ear which, upon being removed, immediately halted his paroxysms of coughing. Let us, for the interest of the thing, trace this reflex, grossly, so that we may have a better insight into this particular case. The tympanic plexus, the source of nerve impulse of the middle ear space, is formed by Jacobson's nerve, a branch of the glossopharyngeal and which is sensory, joined by the caroticotympanicus, a sympathetic communication between the carotid and the tympanic plexi. The glossopharyngeal progresses to the buccal cavity where it forms the chief sensory supply to the tongue and where it is joined by branches from the pharyngeal and sphenopalatine plexi. The pharyngeal plexus is composed of branches from the ninth, tenth and the accessory portion of the eleventh nerves. The tenth (vagus) is the chief nerve supply to both the upper air passages (larynx) and the esophagus, as well as the cardia, trachea and being generally distributed to the gastrointestinal tract. We thus see that a stimulus



to the middle ear space will produce by this anatomic chain reflexes which will produce coughing. When we have then investigated the usual causes for coughing, let us turn to the ear and throat together with the nasal cavities and their accessory sinuses bearing in mind that the nerve stimuli may be masked in any one of these parts. Let us remember that every pathologic manifestation of the body has some pathology behind it, whether it be the hebetate cough of the adolescent or the neurasthenic cough of the hypochondriac, for nature never rebels without some reason for it.

Too often we say that a patient has a habit cough when we have not carefully searched through the possibilities for the cause, hiding our heads in the sands of ignorance or laziness, perhaps. As an illustration of this statement let us cite the case of a lady who called upon us because she was afflicted with a severe cough. We searched diligently for the usual causes common to our specialty and were about to tell her that we could find nothing which might be the guilty party when we thought it might be well to take a stethoscope and check her heart. When we did so we found a gross regurgitation which hardly needed close audition to define.

Occasionally we have a great deal of trouble in setting forth the reason for a cough. Sometimes, in such cases, a roentgen study of the chest will throw considerable light on the subject, for we should remember that any intra- or extrapulmonary disturbance of the chest may cause a cough. Sometimes we find a heart that is enlarged or which seems to drag in its pericardial sac making traction on the tissues at the sternoclavicular junction, thus exciting the tenth nerve or the phrenic at that point of overstimulation.

How often a surgeon does a beautifully clean appendectomy and has the unhappy experience of seeing that patient rip his wounded side open with a cough which the surgeon may attribute to the anesthetic but which is really caused by a low grade peritonitis, probably too low in grade to manifest itself locally except by stimulation of end fibres of the tenth nerve!

Careful examination of a child who had been coughing incessantly, losing sleep himself and causing his mother and father to

lose a great deal also, revealed a small pebble buried under the mucosa of the right nasal floor which, being removed immediately, halted the cough. It is the simple thing which sometimes causes the most difficulty; we are so prone to look for the obscure, unusual thing that we frequently overlook the obvious. We ought to be systematic and orderly in our examinations and follow the trail of diagnosis as a hound follows a fox. Any disease for which there are so many remedies is usually a hopeless or a self-limited disease as far as any effort on our part to intervene in its course is concerned. So often in the case of the coughing patient we find that his physician may have prescribed numerous cough remedies, none of which has influenced the matter to any extent. The physician was treating the result rather than the cause of the illness. One doctor is more successful than another because of circumstances, some of which every man is able to attain control over. Each can make careful examinations and search out every detail in an obscure case rather than take anything for granted or believe the patient's story about his illness.

As to treatment of a cough, I have nothing to say, since every man has his own pet remedies—from ice on the back of the neck to complete relaxation with some hypnotic or narcotic, but let us remember some of the simple rules of diagnosis and use our best judgment, coupled with that of other men, in the matter of treatment.

No doctor will allow one acutely ill of pneumonia to cough his life away nor will the patient with an acute or severe cardiac ailment be allowed to cough unnecessarily. Attempts to stop these devastating paroxysms are followed till success is met.

In conclusion, and by way of summary, let us state that coughing is always a manifestation of pathology and something to be cured if possible. Its cause should be searched for until uncovered. Then proper remedial measures may be instituted.

*At the Tuesday afternoon session of the Association, meeting in Montgomery, April 21-23, Dr. Fred W. Rankin, of Lexington, Ky., will discuss "Modern Management of Organic Lesions of the Colon and Rectum."*

## THE SPASTIC COLON

By

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In offering this subject we make no pretense at bringing out something new. But we believe that it makes for advancement of understanding and has in many other ways a salutary effect to periodically air our old problems, especially the old problems that are taking on steadily greater significance. There is no field in or specialty of medicine, however restricted, but must contend with the so-called spastic colon, or more aptly the irritable colon; and it must be remembered that this condition, so annoying to both patient and physician, is never in any sense a primary disease, always being a symptomatic, an associated or a reactionary manifestation. This latter is absolutely essential for its correct understanding and if there is to be successful management. It would appear that there is no end to the theories about and therapeutic approach to functional disorders of the digestive tube, in which the spastic colon plays such an important role.

In his uncanny and inimitable style of accurately sounding a keynote in the affairs of man, Elbert Hubbard once wrote: "In the race of life, the man with the educated bowels will eclipse the man with an educated brain; and drugs and chemicals that work while you sleep are a little later going to prevent your working when awake." Elbert Hubbard certainly knew his constipated American. And the outstanding feature of the spastic colon is constipation, spastic constipation being many times more common than constipation of the atonic type. The main subjective symptoms are colicky abdominal pains and a sense of soreness in the abdominal viscera. Physical examination reveals varying degrees of abdominal tenderness but no rigidity; this tenderness is most common over cecum and sigmoid, although it is surprising how often it is most marked over the abdominal aorta in the epigastrium. Frequently sections of the colon are palpable, the palpable areas varying from time to time.

X-ray findings are characteristic. The residual from the gastric meal shows the barium in a lumpy arrangement in the co-

lon, some parts being entirely empty with dilated areas proximal thereto; at other times the barium is arranged as an irregular string. The visualized barium clyisma is most conclusive. Above the rectal ampulla the colon fills as a narrow streak with alternating rapid ascent and sudden stoppage, the colon slowly dilating to somewhere near the normal size. The normal filling time is about two to four minutes with a head pressure of  $2\frac{1}{2}$  feet from a 2-quart irrigating can. In the instance of the spastic colon, this is frequently lengthened from ten to fifteen minutes, a thirty-minute interval being not uncommon. An important finding is the absence or sluggishness of the defecation reflex (a feeling of overdistention with desire to empty the bowel) or there are colicky pains with no definite desire for defecation.

Gastric disorders most frequently accompany the spastic colon of neurogenous origin. These include loss of, or fickle, appetite, dyspepsia of the acid type and its train of symptoms, esophageal spasm or cardio-spasm, rumination, pylorospasm, etc.

The kinetic energy for the muscles and glands of the colon is derived through the sacral division of the autonomic or parasympathetic nervous system; on this there is exercised a restraining influence through the sympathetic. This innervation is reversed in the function of the defecation reflex and anal sphincteric control. The normal balance between these two systems produces the proper coordination and correlation of the colon function, the normal irritability, rhythmicity, mass and local peristalsis. This balance varies in its stability with the individual; it may be thrown into imbalance by many factors within or associated with the digestive tube or by factors brought to bear on the colon through the vegetative nervous system representing purely emotional influences or abnormalities of chemistry. The stomach has the same balance of innervation. The autonomic or parasympathetic system supplies the motor and secretory drive through the vagus; the sympathetic opposes. Influences that affect the colon therefore readily affect the stomach.

In considering the spastic colon, diligent search must be made for disease in the stomach, duodenum, gallbladder, the colon



itself with the appendix and the anorectal region. It is probably true that these conditions are too frequently suspected as causal agents; and therapy directed along such lines is frequently followed by failure, resulting in even more serious consequences. And yet it is still a dangerous practice to disregard organic disease without careful, meticulous examination and study.

Gastro-intestinal irritability we believe is often a part of a neuromuscular disorder that in turn results from a low calcium content of the perfusion solution which plays upon the cells of muscles and nerves. We have solved cases of spastic colon by bringing a low blood calcium up into the normal range. Earlier treatment in this group had failed, having been directed solely to correcting a neurosis. It is perfectly possible that the spasmophilia and mineral disturbance followed stress and strain with dietary indiscretion. In some cases an allergy appears to be a definite factor.

Elbert Hubbard was right; the average American wants his or her bowels to move too much and too often. This is the direct result of a former misconception on the part of the medical profession, which has been pounced upon and pounded into the American consciousness by adroit advertising propaganda from the astute drug manufacturers. Advertising of laxative drugs over the radio with a most appealing mixture of music and catharsis has given great impetus to colon consciousness. Laxative drugs irritate the neuromuscular mechanism of the colon and spasticity is bound to ensue.

However, by far the most important cause of spastic or irritable colon is the disordered nervous mechanism of the unstable individual. Whether the manifestation be considered a motor or a sensory disorder, an autonomic imbalance or a colon neurosis, the mechanism is essentially the same; an inferior mental makeup usually handicapped by an impoverished heredity meets in conflict an apparently insurmountable obstacle offered by environment. The abdomen is a sensitive tonometer for the emotions.

A thorough personality and physical study must be made in each case. What kind of an individual would be expected to present a spastic colon? Usually timid,

afraid, lacking in self-confidence; emotionally unstable; reticent and suppressed, unable to grasp the hard facts of life or unwilling to accept them, uncertain about the conduct of the past, worried and harried about the future, unable to fit into the harsh inequalities of life. Out of sympathy with fellowmen, with family or domestic relations, unequal to cope with love, life or solve sex problems.

The physical habitus is underdevelopment, usually a fair state of nutrition, very frequently the asthenic or visceroptotic type, with low vasomotor tone, with cold moist hands, rapid pulse and low blood pressure, with anxious or worried expression, often hypersensitive to pain (lowered threshold of receptivity). Most of these people are much impressed by elaborate diagnostic procedures. They all have the cathartic habit and are devotees of purgation.

The development of a neurotic family history is of great importance in the proper analysis of these cases. Furthermore it is noteworthy that the neuroses are mostly seen after the end of the protected period of life, usually unfolding between the ages of 18 and 28 years. It is unquestionably true that modern economic strain, speed of living, dissipation and the complexities of society have increased the burden of the unstable faster than nature could be expected to evolve stability. The problem of neuroses in general and of the functional digestive diseases in particular is rapidly growing. And it would seem that the increase is greater in the vagotonic or parasympathicotonic (the type that shows the spastic colon) than in the sympathicotonic (the type with atonic colon). However, it must be remembered that these types are not clear-cut and there are many overlapping factors in each case.

This in a general way is the picture of the spastic colon. It is well to repeat that the diagnosis is never easy. Regardless of care in diagnostic studies, of experience and judgment, mistakes will be common; these patients will travel from doctor to doctor, seeking new forms of examination, trying new treatments and operations, some benefited and others rendered worse.

Although there is not time for its elaboration here, it is well to suggest the rationale

of the spastic or irritable colon as the early phase with mucous colitis, ulcerative colitis and diverticulosis as later phases of the same fundamental process. Instead of considering these conditions as separate clinical entities, we consider this correlation is the simpler, more logical and more satisfactory explanation.

In the management of the spastic colon of neurogenous origin, the first consideration is the management of the individual. The patient's confidence must be won by the physician who must implant self-confidence in the patient. The latter must be taught adjustment and helped to build up a satisfactory philosophy of life. Living habits must be corrected; the patient must be made to understand the condition, its genesis and the necessity for the assumption of responsibility. Diet is a most important factor; sedative drugs are of great importance; laxatives must be eliminated as rapidly as possible; a normal calcium balance must be sustained in cases where this is a factor; an existing allergy must be corrected.

At best, the diagnosis of a neurosis is a serious and a dangerous problem. Its management is always a strain upon the patience of the physician, drawing heavily upon his sympathetic understanding and upon his time.

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*The field of urology will be represented at the approaching meeting of the Association by Dr. Edgar Burns, New Orleans, who will present a paper on "Surgery of the Prostate."*

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*Ophthalmology will have, as its spokesman, Dr. Edward C. Ellett, of Memphis, Tenn. "Ocular Tuberculosis" will be the subject of his paper.*

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*Dr. John H. Musser, of New Orleans, will discuss "Abdominal Pain Due to Extra-Abdominal Conditions."*

## DANGERS OF DENTAL INTERFERENCE IN ACUTE BLOOD DYSCRASIAS\*

By  
GROESBECK WALSH, M. D., F. A. C. P.  
ROBERT M. POOL, M. D., F. A. C. S.  
And  
ALBERT S. HARGIS, B. S., M. D.  
Fairfield, Alabama

In a paper<sup>1</sup> issuing from this institution in 1934 attention was called to the frequency with which patients suffering from acute blood dyscrasias seek aid from the dentist. The American public has been intensely educated in the theory of focal infections, and displays at times an unfortunate degree of acquiescence in the sacrifice of its teeth, tonsils and various other appendages. This common consent to mutilating procedures is carried out with the expectation of a cure, which would be indeed miraculous could it be achieved by these means. The majority of patients who consult their physicians for chronic complaints are seen at some stage in the course of this sacrificial journey—only too frequently—obtaining no relief after all of the obvious sources of focal infection have been eliminated.

It is idle to call attention to the large number of surgical operations which have followed the same processes of reasoning. Diseases such as the acute blood dyscrasias, which show marked changes in the orifices of the body—particularly the mouth—are liable to excite the idea that a cure can be effected by some radical operative interference on the part of the dentist and the specialist in diseases of the nose and throat. This misplaced confidence is widely entertained in the world at large. We believe it to be a fact that a number of these patients seek dental assistance without any medical advice in the matter, that is seek it of their own volition—so thoroughly has the theory of focal infections been disseminated among the laity.

The human teeth and the mucous membranes of the mouth are peculiarly susceptible to the sudden changes which take place in the acute blood dyscrasias. The frequen-

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\*From The Employees' Hospital.

1. Walsh, Groesbeck and Stickley, Courtney S.: Acute Leukemia With Primary Symptoms in the Rectum, a Rap'd Increase in the White Cells and a Fatal Outcome, Southern Medicine and Surgery, Vol. 96, No. 12, December 1934.



cy with which alveolar abscess occurs in the acute leukemias has been noted by a number of observers, and the changes which take place in the teeth and their emplacements in various types of anemias have been frequently commented upon.

A knowledge of these diseases, sufficiently accurate to invariably prevent faulty and injurious procedures on their part, would be too much to expect from the members of the dental profession, particularly when the patients are brought by their families and their physicians with an insistent demand that something be done.

It is, we think, a tribute to the intelligence and powers of perception in the profession as a whole that among the three cases described in this communication one dentist declined to extract any teeth and informed the patient's family that the need in this instance was expert medical advice. In his opinion the patient was suffering from some systemic disorder.

These three cases are reported as they represent a considerable portion of the cases of acute anemias admitted to this institution, and in each of the three instances dental assistance was sought in the disease, twice with disastrous results and once with the beneficial effect already described.

We believe the medical profession is learning more dentistry as time goes on and that the dental profession is learning more medicine. The theory of focal infections has assisted materially in bringing about these two desirable conditions. We believe it is by the extension of these educational processes in both professions that the unfortunate happenings described in two out of the three cases listed will in time be eradicated.

#### CASE REPORTS

Case 1. A white male, aged 23 years, was admitted to the hospital, complaining of generalized adenopathy, weakness, headache and sore mouth. He gave a history of an initial genital lesion about one year before admission, which was followed by a rash. He had noticed some enlargement of the glands in his neck, which became very much worse, however, after a tooth had been extracted one month before admission. A history of bleeding followed the tooth extraction.

During his stay in the hospital the temperature ranged from 99° F. to 105° F.; the pulse ranged from 80 to 140; and the respirations from 20 to 36. On admission the red blood cells totaled 2,775,000 and the hemoglobin was 60%. During his stay in

the hospital, before death intervened, the blood count descended to 1,425,000 and the hemoglobin to 30%.

*Comment:* We judged that the same combination of symptoms, subjective and objective, which brought him to the hospital, had induced his visit to the dentist.

Case 2. A white male, aged 70 years, was admitted to the hospital, complaining of "dental trouble and fever." He had been running a temperature of 101° F. to 102° F. every day for the past seven weeks. Four weeks before admission two teeth had been extracted. There had been an extensive extravasation of blood into the adjacent tissues and tooth sockets where the nerve was blocked. There was almost continuous hemorrhage from the site of the tooth extraction from the date of extraction up to the day of his admission to the hospital.

During his stay in the hospital the temperature ranged from 99° F. to 105.8° F., never dropping below 100° F. after the second day. The pulse varied from 88 to 130; and the respirations from 20 to 26.

The day after admission the red blood cells were 1,250,000 and the hemoglobin was 60%. Two days before death intervened the red blood cells showed 1,000,000 and the hemoglobin was 45%.

He made his exitus seventeen days after admission to the hospital.

*Comment:* The only interpretation which we can place upon this patient's visit to the dentist implies a profound belief in the theory of focal infections. Otherwise it would be difficult to see how people possessed of human reasoning power could bring an old man of seventy years of age to the dental chair for extraction of teeth when he had already been running a high fever for a period of at least three weeks, and, we have every reason to believe—indicated by his appearance—a rapidly progressing destruction of his blood.

Case 3. A white female, aged 23 years, was admitted to the hospital, suffering from a partial aphasia. This involvement of her speech centers came on suddenly several days before admission to the hospital, and cleared up within a short space of time. She was profoundly anemic, and had some hemorrhagic spots under her skin, which had been appearing on her arms and legs for four months before admission. The family said she had been notably anemic for some time. A tonsillectomy had been performed some six weeks before admission to the hospital.

On admission the temperature was 99.4° F., and the pulse was 115. The temperature never dropped below 100° F. after the third day. During her stay in the hospital the pulse varied from 92 to 150, and the respirations from 20 to 40.

She also had been taken to a dentist for the purpose of having some teeth extracted some days before admission, but the dentist refused to interfere in the matter and advised the family to take the girl to a physician for competent advice.

On admission the red blood cells were 680,000 and the hemoglobin was 25%. The highest red cell

count obtained during her stay in the hospital was 1,104,000.

Death intervened sixteen days after admission to the hospital.

*Comment:* It is difficult to see how the patient could possibly have survived the tonsillectomy which was done six weeks before admission, but survive it she did. Again we confront the unusual fact that intelligent people, having the best interests of the patient at heart, took this anemic, dying girl to a dentist for the purpose of having some teeth extracted. The action of the dentist in the matter has already been favorably commented upon.

**Physical Therapy**—In chronic arthritis and fibrositis physical treatment is indispensable; almost every case of chronic arthritis at some stage requires the application of heat in some form, usually together with massage and movement. No scheme of treatment for chronic arthritis can be considered complete unless an extensive range of physical methods of treatment under skilled direction is available. Physical therapy will assist in constitutional as well as in local treatment of this great problem of contemporary medicine. Gonorrheal arthritis responds specifically well to diathermy and in stubborn cases to fever therapy. In tuberculous arthritis, as well as in other forms of extra-pulmonary tuberculosis, light therapy together with immobilization and general hygiene constitute the standard treatment. Physical measures are likewise indispensable in the management of the extra-articular manifestations of the rheumatic syndrome, chronic inflammations of muscles, tendons, bursae and nerve sheaths. Suitable heat measures are specific for relief of spasm and pain and promote resolution. Fibrositic nodules disappear under continued heating and mechanical treatment. Constitutional treatment by physical measures—hydrotherapy, muscular exercise—for the increase of elimination through the skin, and the raising of general metabolism are as important as in chronic arthritis.—*Kovacs, Virginia M. Monthly, Jan. '36.*

**Syphilis of the Stomach**—Gastric syphilis is not as rare as it has been thought to be. The reason for this is that the symptoms are easily confused with those of chronic ulcer, carcinoma, and hourglass contracture of the stomach. Consequently, the diagnosis is usually made late in the course of the disease, unless phenomena of obstruction develop as a result of narrowing of the pyloric outlet.—*Judd, California and Western Med., Jan. '36.*

## SPECIAL ARTICLE

### FOREWORD

(By J. N. Baker, M. D.)

Because of the tremendous socio-economic, as well as medical, aspects of the venereal diseases from the standpoint of adequate control and treatment, there is reproduced below the recommendations for a venereal disease control program prepared by the Advisory Committee to the United States Public Health Service, which appeared in the January 11th issue of the Journal of the American Medical Association. This is full of splendid suggestions as to how broad programs may be formulated which closely integrate the practising physicians into them. Prior to the drastic curtailment of the funds appropriated for health work in this State, the Health Department had already worked out a satisfactory plan with the physicians and which was functioning nicely and smoothly. The Health Department is hopeful that, when federal funds are made available through the Social Security Act, these plans may be reinaugurated on a considerably enlarged and expanded scale.

### RECOMMENDATIONS FOR A VENEREAL DISEASE CONTROL PROGRAM

IN STATE AND LOCAL HEALTH DEPARTMENTS  
SUMMARY REPORT OF AN ADVISORY COMMITTEE TO  
THE U. S. PUBLIC HEALTH SERVICE

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CHAIRMAN  
Assistant Surgeon General, U. S. Public Health  
Service  
And Others

[Reprinted from J. A. M. A. 106: 115-118  
(Jan. 11) 1936]

Problems relating to the control of syphilis and gonorrhea have offered a challenge which some health departments have not accepted and to which many health departments have given only partial recognition. The widespread prevalence of and economic loss due to these diseases have been re-emphasized repeatedly. To stress again such prevalence and loss would be unnecessary.

In the past decade scientific opinion, especially with regard to the treatment of syphilis, has crystallized and authorities are now agreed that much progress can be made in the control of syphilis during the next few years if modern knowledge is accurately applied. In order to summarize such knowledge and to point out the most salient features in an effective program, the Surgeon General of the Public Health Service has appointed an advisory committee, which has been charged with this responsibility.



The large number of state and local health departments and the heterogeneous character of the population in the areas concerned made it necessary for the committee to limit the report chiefly to general recommendations. It is believed, however, that health officers, physicians and others interested in the control of the venereal diseases will find many points of fundamental importance in this report and that such points are basic principles in the efficient operation of a well balanced health department.

#### ADMINISTRATION OF THE PROGRAM

The health department of a state, large municipality or health district should include the following provisions in its administrative organization:

1. Venereal disease control work should be integrated or performed in close liaison with the communicable disease division of the health department, but it should be directed under a separate section or subdivision with a high degree of autonomy.

2. The program should be directed by a full time venereal disease control officer.

3. In each state, large municipality or health district there should be a local advisory committee to the health department, which will be charged with the coordination of venereal disease control activities of the health department, the medical and allied professions, and voluntary agencies.

4. The proportion of health department funds to be allocated to the venereal disease control activities should in general be determined by two considerations: First, a carefully drawn state program to secure for the public adequate protection against the spread of disease by infected individuals, and for the individual patient adequate treatment, skilled medical care and maximum privacy. Second, allocation of funds on the basis of the relative prevalence of the venereal diseases in relation to all communicable diseases in the state's morbidity rates, or in the relationship of such morbidity rates to special political or geographic units within the state.

#### ADEQUATE TREATMENT FACILITIES

The committee agreed that clinic service should be available for (a) the diagnosis and emergency treatment of any patient who applies; (b) any patient who is referred by a private physician, either for continued treatment or for consultative advice and opinion, and (c) any patient who is unable to afford private medical care.

Polyclinics are recognized as preferable to isolated clinics in supplementing existing sources of treatment. Health department funds would in most places be more wisely expended in subsidy to efficient polyclinics already existing, rather than in the establishment or support of separate clinics. In such subsidized clinics the health department should require minimum standards of efficiency in conformity with the general state and national policy. No clinic that is a part of the service of a hospital should be subsidized by state funds if such hospital refuses to admit patients with gonorrhea

or syphilis to its beds. The monetary compensation for all physicians should be such as will secure the loyal and continuous service of the best equipped men available.

In rural communities, adequate treatment facilities for indigent patients may be achieved (a) by subventiary assistance to properly qualified local physicians; (b) by county health officers themselves, provided these health officers have had proper training in the clinical management of cases; (c) by subsidies to counties or communities for the transportation of such patients to the nearest center at which approved treatment may be obtained; (d) by the establishment of special clinics in rural communities in which large numbers of Negroes are included in the population and in which it is desirable because of unusually high prevalence to supplement the efforts of local physicians, and (e) possibly by the development of a traveling health unit in which the necessary measures may be instituted for the prevention of the communicable diseases, including treatment of the venereal diseases.

In addition to the diagnostic laboratory services now provided by most state health departments, it is recommended that there be made available in each state at least one approved venereal disease diagnostic and treatment center in which, among other services, roentgenologic and special laboratory facilities are provided. Patients unable to pay for these services should be referred to such a center for consultation by the local physician or the state subsidized physician charged with their care. Such centers may properly be associated with general hospitals operated by the state, county or municipality. In addition to the ambulatory consultation service, these institutions should provide for the hospitalization of patients whose illness requires inpatient care. The cost of transporting such indigent patients to and from the consultation and hospital center from rural areas should be borne by the state.

When physicians in rural areas are subsidized by health departments, the latter should require minimum standards of training from such physicians.

The free distribution of antisyphilitic drugs by the state to all sources of treatment is rational as a partial subsidy. The drugs offered should include at least two of the common arsenicals and, so far as possible within budgetary limits, a generally accepted bismuth preparation.

#### PREVENTION OF THE PRENATAL TRANSMISSION OF SYPHILIS

It is now incontestably established that the prenatal transmission of syphilis can be prevented in the vast majority of cases by the institution of effective treatment for syphilis before the fifth month of pregnancy. When the syphilitic pregnant woman does not present herself for examination until after this time, antisyphilitic therapy should be continued as long as possible before the termination of gestation. The performance of blood serologic tests on every pregnant woman as early as possible, and preferably more than once in

the course of her pregnancy, should be routine procedure in all antepartum hygiene programs.

The treatment of the indigent pregnant syphilitic woman should be administered either in the venereal disease clinic or in the antepartum clinic, depending on the availability of physicians trained in syphilology in the respective clinics.

#### EPIDEMIOLOGIC WORK

The venereal disease control section of a health department should, in order to provide adequate service, employ and supervise one or more medical follow-up workers on its own staff. It should also insist on the employment of, and provide for close cooperation with, similar workers attached to and under the supervision of subsidized clinics. The workers under the direct employ of the health department should offer service to nonsubsidized clinics and to private physicians.

The medical follow-up worker is charged with two duties, each equally important: 1. The epidemiologic investigation of the early infectious case. 2. The follow up of patients lapsed from treatment, especially those with infectious venereal diseases. The investigation of familial contacts in all cases, early or late, is secondary only to these objectives.

Medical follow up being an essential part of the control of the venereal diseases, the tact required in and the confidential nature of such follow up should be especially emphasized. Choice of personnel should be based on demonstrated aptitude and suitable personality rather than on routine service classification or assignment.

#### LABORATORY FACILITIES

Adequate and universally available laboratory service for darkfield examinations and serologic tests is a first essential in the control of syphilis. While it is not deemed feasible or advisable to restrict the performance of the blood serologic tests to a central state laboratory, it is believed to be sound policy for the state to set standards for the performance of such tests, to control their accuracy and their continued specificity and sensitivity, and to see that conditions are maintained which are essential for accurate technic in serodiagnostic work. For this reason, in addition to the fullest possible development of state laboratory facilities to supplement existing private facilities, it is recommended that a system of state licensure or approval for hospital, institutional and other private laboratories be organized. The possibility should be borne in mind that under certain circumstances local private laboratories may be subsidized to advantage for the performance of laboratory work.

Among the essentials of an adequate serologic laboratory service, the following are fundamental and should be made the basis of central laboratory organization and state approval: (a) a director who by appropriate theoretical and practical examinations can demonstrate a satisfactory knowledge of the serology of syphilis and its recent advances; (b) a stable, experienced technical per-

sonnel; (c) adherence to accepted standards of maintenance of glassware, animal material, incubators and other equipment; (d) the periodic performance of interlaboratory cross-checks on identical specimens, these to include specimens to be sent to the central state laboratory, and (e) the maintenance of a periodic clinical control of serologic results by means of cross-check against the diagnoses made at syphilis clinics conducted under state or other expert auspices.

*Darkfield Examination.*—The importance of the darkfield examination in the diagnosis of syphilis should be impressed in every possible way on all physicians, clinicians and other workers interested in public health measures directed against the venereal diseases. State health departments should aim to place at the disposal of every interested physician or group two types of facilities: (a) the direct darkfield examination of secretions by a properly equipped laboratory administered as described, and (b) indirect darkfield examinations (capillary tube method) through the state laboratory.

*Lumbar Puncture.*—This is an essential procedure in the management of syphilis. Health departments should require in subsidized clinics, and should urge in nonsubsidized clinics, a lumbar puncture for every syphilitic patient before the completion of treatment. In general, this examination should be performed at some time during the second six months of treatment in early syphilis and at the start of treatment in late syphilis.

For the diagnosis of gonorrhea, clinics should be fitted with a microscope and proper stains so that studies may be made during the patient's visit. Only a Gram stain or a good modification of it should be relied on, since diagnostic errors are common with single stain methods. The diagnosis of gonorrhea in the female bears a direct relationship to the care with which smears are made.

#### COOPERATION OF HEALTH DEPARTMENTS WITH PHYSICIANS

There are several ways in which health departments may be of assistance to private physicians: (a) the provision of free diagnostic service; (b) the free distribution of antisiphilitic drugs to private physicians for use in the treatment of private patients, who are or may become a danger to the public health, and (c) provision of consultation services, including roentgenologic and other expensive laboratory examinations for indigent patients or those whose financial circumstances do not permit such expensive studies in private practice.

An obligation of the health department to the physician which cannot be overstressed is that of furnishing him with special information of value in the control of the venereal diseases. Opportunities should be extended to interested physicians to learn the practical management of syphilis and gonorrhea through rotating terms of clinic service under expert supervision.

#### MORBIDITY AND MORTALITY REPORTS

The venereal disease control officer should assume responsibility for the collection of adequate



morbidity and mortality reports. It is possible that collection may be improved by the provision of a simple reporting system, requiring only such data as have actual value for statistical study. The state health department should provide, distribute and collect these reports without expense to the physician and with minimum demand on his time.

Minimum data, which should be included on morbidity reports, should be such as will provide information on the total prevalence of gonorrhea and syphilis, the stage or chronicity of these infections, distribution of cases according to age and sex, prevalence of syphilis in relation to pregnant women, prevalence of gonorrheal vulvovaginitis, the relationship between marriage and venereal diseases, and the time interval between the date of infection and the beginning of treatment. Morbidity reports should not include the name of the patient but should include the place of residence.

#### INFORMATIVE AND EDUCATIONAL PROGRAM

The informative and educational program against the venereal diseases is in many respects its most important phase. Among the important considerations is the provision of more effective undergraduate and postgraduate training by medical schools in the clinical management of the venereal diseases.

The dissemination of informative literature to physicians in private practice is essential. The material used should be selected particularly to aid in practice and to secure active cooperation in the public health control of the venereal diseases. Efforts to inform and cooperate with physicians should be paralleled by similar activities for nurses, medical follow-up workers, and other groups.

The preparation and dissemination of educational material to the general public is also highly important. It is recognized that much may be done to improve this material and to direct it more specifically to the people in need of advice.

#### STUDY OF THE RESULTS OF A PROGRAM

While the regular collection and constant study of morbidity reports should constitute the fundamental points in any retrospective evaluation of a program, special studies are also of value from time to time. The one-day survey, which has been made in a number of localities by the Public Health Service, offers the most satisfactory method of determining progress. It should be used, however, with careful consideration of the following points: (a) A survey should be made sufficiently often to establish a trend; (b) both the residence of the patient and the location of the treating agency must be taken into consideration; (c) data relative to color and sex of the patient should be obtained, and, (d) when circumstances permit, the surveys should include also data pertaining to age, marital status and duration of the infection.

Other more specific studies should be made from time to time as follows: (a) a survey of the performance of clinics covering at least two years and taking into account total admissions, sex, age, marital status of the patient and age of the infection at the time of admission, and the number and type of

treatments before the patient lapses; (b) a detailed study of the performance of clinic medical follow-up service, covering every admission over a period of at least a year, and including follow-up of the lapsed patient, the source of infection, and contacts; (c) an estimation of the performance of antepartum clinics, taking into account the duration of pregnancy at the time of admission to the clinic, the duration of syphilis in relation to the pregnancy, the interval lapsing before serologic tests for syphilis are made and the interval lapsing before treatment is begun, and finally (d) extension of such studies to physicians in private practice as far as possible.

*When the Association convenes in Montgomery, April 21-23, it will be addressed by Dr. W. D. Haggard, of Vanderbilt; his subject, "Recent Developments in the Study and Surgery of Goiter."*

*Dr. C. Jeff. Miller of Tulane will discuss "The Preparation, Operative Technic and After Treatment of Complete Tears of the Perineum."*

*A motion picture of normal labor will be shown by Dr. Carl Henry Davis, Clinical Professor of Obstetrics and Gynecology, Marquette University School of Medicine.*

*"Physiological Principles Applied to the Treatment of Fractures: with Lantern Slides, and a Motion Picture to Show an Operation for Ununited Fractures" will be Dr. Willis Campbell's contribution to the 1936 meeting of the Association.*

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### THE 1936 ANNUAL MEETING

Montgomery, April 21-23

Rarely before has the Montgomery County Medical Society, as host to the Association, found itself host also to so distinguished a group of speakers as those assembled by the President, Dr. C. A. Thigpen, for the 1936 annual meeting. Most of the specialties are represented in these outstanding medical men who come from many places, some of them distant, to make the Sixty-Ninth Consecutive Annual Session of the Association a postgraduate course for the doctors of Alabama.

Let them speak for themselves: Dandy of Johns Hopkins, Haggard of Vanderbilt, Willis Campbell of the University of Tennessee, Carl Henry Davis of Marquette University School of Medicine; Musser and Jeff. Miller of Tulane, Rivers of the University of Minnesota Graduate School of Medicine; Parran, the Commissioner of Health of the State of New York; Bauer, Director of the Bureau of Health and Public Instruction of the American Medical Association; Ellett of Memphis, Burns of New Orleans, Fred W. Rankin of Lexington; and Edward Wadsworth Peterson of New York.

The Jerome Cochran Lecturer will be our William Dempsey Partlow.

Need more be said? Just a word: The members of the Association ought to let nothing interfere with attendance upon this feast prepared for them by Doctor "Char-

lie." Whatever each man's bent may be, he will find a worth-while contribution to his knowledge in the papers and demonstrations to be presented.

Montgomery, April 21 and 22 and 23.

### CHANGING IDEAS OF IMMUNOLOGY

In one of his memorable reminiscences the late A. Conan Doyle<sup>1</sup> introduced us to the elderly Doctor Winters. The old gentleman began the practice of medicine about the time inoculation for smallpox was being discarded and vaccination was being introduced. He was thought to entertain a preference for the older procedure. He regarded chloroform as a dangerous innovation. His favorite joke in the sick room was to say: "Close the door or the germs will be coming in."

It would be well-nigh impossible for the present generation to understand the bitter opposition which our pioneer bacteriologists encountered. The mere idea that such things as germs existed was contested, and the idea that they were causes in the production of disease was fought to the bitter end.

As the work of Pasteur, Koch, Ogston, Lister and others piled proof upon proof, the die-hards retreated from one standpoint to another. Not long before the opposition was completely routed it assumed the position that the presence of certain specific bacteria was admitted, but these could be viewed as secondary agents which preyed upon already diseased tissue. When the triumph of the bacteriologists was complete such halfway measures of opposition were swept into oblivion.

It is interesting to note that the conception of bacteria as secondary saprophytes is being revived again, not by any particular school of thought but by the progress of events. We might have been warned that it would be had we perceived the import of Pasteur's experiment when he was able to infect fowl with anthrax only after their resistance had been lowered by immersing their feet in ice water. This theory modified to meet the exigencies of plant life has been known to flower growers for centuries. Lilies bloom profusely and properly,

1. Doyle, Conan A.: Round The Red Lamp.



say these experts, only when they are happy, which we may take as a way of saying when all their nutritional requirements have been adequately supplied by their environment. Though in our minds we must have transferred this point of view to human beings we have overlooked the implication that bacterial invasions follow food deficiencies.

It is just as well that the first food deficiency disease to be recognized as such turned out to be scurvy. Observers all over the world were informed that terrible and fatal changes in the human body could be brought about by such a seemingly simple thing as a lack of proper substances in the food.

Since the beginning of the century other diseases identified by symptoms bearing no resemblance to those of scurvy have been ascribed to lack of vital food elements, or vitamins as we have been taught to call them. Pellagra, beri-beri, Addisonian anemia and sprue are some of these diseases. No sensible person could say that dietary deficiency constitutes the alpha and omega of these complaints, but that such deficiency plays a large part in the problem of their inception and treatment has become a common and a valuable belief, indispensable to our methods of treatment.

Less than two decades ago an enormous amount of work went on in every part of the medical world regarding the bacteriology of these diseases. For a long time it was hoped that some spectacular discovery would solve the puzzle in each instance. Since the acceptance of the idea that vitamin deficiency plays a large part in the production and treatment of these disorders, interest in their specific bacteriology has undergone a blight. It has been delegated to a secondary position. By an apparently unanimous vote the final solution has been postponed. We have quietly drifted into the position of the die-hards of the last century. We are witnessing the attacks of bacteria upon already diseased tissues.

Rinehart<sup>2</sup> studies the problem of rheumatic fever. He has collected a mass

of information much of which leads us to believe that the disease is another of those deficiency syndromes on the processes of which a bacterial invasion has been engrafted. The disease is one of the poor and undernourished; it is twenty times more frequent among slum children than among the offspring of the well-to-do. It is rarely seen in the tropics where all nutritional diseases are uncommon. The disease bears several striking resemblances to scurvy. It can be reproduced in animals only after their diet has been robbed for some time of the proper quantities of vitamin C.

It is a fascinating vista which thus opens before our eyes. It is quite possible that many of the more serious problems of medicine, the cancer problem for example, may be solved along the lines mentioned above, and not by any sudden epoch-making discovery.

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#### HOO KWORMS AND OTHER INTESTINAL PARASITES

More than twenty years ago the first real mud sills of modern public health practice were laid in the South, through the aid of the Rockefeller Sanitary Commission extended to State Boards of Health to rid this vast area of the devastating effects of the hookworm. True enough, other subtle enemies to mankind lurked in our midst; such as Eberth's bacillus, the *Plasmodium malariae*, having the anopheles mosquito as its vector, and others, all of which were reaping a heavy toll in human morbidity and mortality. But none of these presented quite the striking or colourful picture as did the pot-bellied, pasty, slothful-minded victim of the *Ankylostoma americana*. In a rational approach to the control of hookworm disease, science pointed the way. The "ground-itch," which tormented every bare-foot southern boy and girl, had been shown to be the portal of entry of the hookworm for all of its subsequent nefarious doings within the human host; given this lesion, coupled with a warm, suitable soil polluted with human excreta, and laden with a bountiful supply of hookworm ova and we have the ingredients necessary for the perpetuation of the vicious hookworm circle. This vicious circle can be temporarily broken by the administration of a suitable vermifuge.

2. Rinehart, James F.: Studies Relating Vitamin C Deficiency To Rheumatic Fever And Rheumatoid Arthritis; Experimental, Clinical, And General Considerations. 1. Rheumatic Fever. *Annals of Internal Medicine* 9: 586 (Nov.) 1935.

But a permanent break can only come when the sanitary environment is improved to such an extent that human excreta is no longer a menace to health. Witness, for example, what has happened to the scourges of typhoid and the dysenteries as a result of improvement of environmental sanitation. The stopping of the deposition of human excreta on the surface of the soil seemed such an easy method of controlling the spread of hookworm disease and infestation, that, following the Rockefeller Foundation's initial survey during the period 1910 to 1915, high hopes were held for the rapid eradication of hookworms as a problem in our southern states. But the passing of years since 1915 has demonstrated that our anticipations of eradication were entirely too rosy. It is true that the seriousness of the problem has materially declined. But the decline has not yet been marked enough to eliminate hookworms as a health problem in the South.

Minor and major surveys in the sixty-seven counties of Alabama have been carried on from time to time since 1915. But rarely did these surveys demonstrate a true and accurate picture of the problem. Either the number of individuals tested was too small to give a true picture or the sample was selective or the method of stool examination was not detailed enough to demonstrate the extent and severity of the problem. But these surveys, incomplete as they may have been, did show that hookworms still were a public health problem, especially in the southern counties of our own state.

A resurvey in 1934, made by the Mississippi and South Carolina Boards of Health and Vanderbilt University Medical School's Department of Preventive Medicine, aided financially by the Rockefeller Foundation, was carried on in Mississippi and South Carolina. It was decided to study the problem in all counties in which an incidence of hookworm infestation of fifteen per cent or higher had been found by the Commission in 1910-1915. According to the annual report for 1934 of the Rockefeller Foundation, 44,380 white persons were examined in Mississippi. Of these, 8,694, or 19.6%, harbored hookworms. The study showed that between 1910 and 1933 the incidence of hookworm infestation in white persons declined from 53.1% to 19.6%, a reduction

of 63%. Of the 6,441 specimens from negroes, 1.4% contained hookworm eggs. The prevalence of hookworm infestation was, therefore, fourteen times as great among the white population examined as among the negroes.

In order to develop a base line of hookworm infestation in Alabama, it was decided to make a state-wide survey by counties. School children were considered as the best and most accessible population group for such a survey under the present financial and personnel limitations. Egg counts were to be made on all positive hookworm specimens in order that the results might show not only the percentage of children infested, but also the degree of infestation. In the accepted index of the severity of hookworm infestation, 100 or more worms must be present before clinical symptoms become manifested. Many of our southern counties will quite possibly show an infestation higher than 100 worms per child. Twenty-one counties have been, or are, in the process of being surveyed.

The interesting side light in these surveys is the number of infestations from other intestinal parasites, such as *Ascaris lumbricoides*, *Enterobius vermicularis*, *Taenia nana*, *Taenia diminuta* and other worms. A large number of *Ascaris lumbricoides* and *Taenia nana* infestations have been noted in some of the counties surveyed. When the survey has been completed and the data compiled, there will be shown not only the percentage and severity of hookworm infestation, but also the degree of infestation from other worms.

*At the annual meeting of the Association, Montgomery, April 21-23, Dr. Walter E. Dandy, of Johns Hopkins, will present a paper on "The Diagnosis and Treatment of Brain Tumors."*

*The subject of the Jerome Cochran Lecture, by Dr. W. D. Partlow, will be "The Debt the World Owes to Medical Science."*



## DEPARTMENT OF PUBLIC HEALTH

### BUREAU OF ADMINISTRATION

J. N. Baker, M. D.

State Health Officer in Charge

Our modern social structure is fast becoming tremendously intricate and complex. People are clamouring for and demanding, from governmental agencies, numerous and sundry services which, even a decade ago, were not claiming the attention of law-making bodies. To be in position to deliver such services calls for both money and machinery—local, state and federal alike. Within one title alone of the Federal Social Security Act—Title V, parts 1, 2 and 3, grants are made to states for (a) maternal and child health services; (b) services for crippled children; and (c) child welfare services. All three of the above services to be administered through the Children's Bureau of the United States Department of Labor. The thinking medical mind sees at a glance the need for a close integration of the medical profession into each of these programs if they are to succeed. With this thought in mind, the State Health Officer, as the official representative of the medical profession in Alabama, has sought to impress this need upon the official heads of the two state agencies responsible for the conduct of the crippled children's program (Department of Education) and child welfare (Department of Public Welfare). As a result of conferences, the following tentative plan has been worked out which might well serve as "a starter." These problems and the programs to be shaped for their execution are of such vital concern to the entire medical profession that its entire membership should be giving them serious consideration.

In this connection, attention is also directed to the "special article" appearing in this issue of the Journal outlining a suggested program for the control of the venereal diseases. This should likewise claim serious consideration at the hands of the medical profession.

### PLAN OF AGREEMENT BETWEEN THE STATE DEPARTMENT OF EDUCATION, THE STATE DEPARTMENT OF PUBLIC WELFARE, AND THE STATE BOARD OF HEALTH IN ADMINISTERING THE PROGRAMS OF PHYSICAL RESTORATION OF CRIPPLED CHILDREN, AND THE REHABILITATION OF CRIPPLED ADULTS

Under recent acts of the Legislature of 1935, the programs for the physical restoration of crippled children, and the vocational rehabilitation of crippled adults—both of which programs are provided for in the National Social Security Act—are to be administered by the State Board of Education. The program of vocational rehabilitation of crippled adults has been administered as a service under the Division of Vocational Education of the State Department of Education since the enactment of the Smith-Bankhead law in 1921. The service for crippled children has been a part of the rehabilitation service since 1926. The two programs are jointly physical restoration and rehabilitation, including vocational training. The program of crippled children in the state set-up is one of physical restoration, general education, special vocational training and placement for those who are not fully restored. This particular service for crippled children under the Alabama plan embraces six steps as follows:

1. Location of the child.
2. Hospitalization, treatment and convalescent care.
3. General education.
4. Vocational guidance.
5. Special vocational training.
6. Placement in employment.
7. Supervision for a year on the job after placement.

In the light of the fact that only about one-third of those who are hospitalized and treated may be restored to normal condition, the state has assumed a responsibility for the above complete program which assures partially crippled individuals of vocational training and employment.

The contemplated program calls for the intimate cooperation on the part of the State Board of Health, the State Welfare Department and the organized medical profession of the State with the official administrative agency, the State Board of Education. The program, as heretofore administered, has been made effective to an unusual degree because of the intense interest and efficient cooperation of the agencies mentioned above. In view of the fact that, in Alabama, the organized medical profession constitutes the State Board of Health, it at once becomes evident that any program looking to the expansion and strengthening of any and all phases of educational, health, and welfare activities must be so framed as to make of this group a vital and integral part. This will prove particularly true when planning a comprehensive program for crippled children, the success of which will so largely depend upon the cooperation and labors of the skilled professional men to be chosen from this group. With the view of continuing this

cooperative plan, in rendering the greatest possible service to crippled children and adults, the following tentative suggestions are submitted to the State Health Officer, as the official representative of the medical profession, and to the Commissioner of Public Welfare for their consideration in the hope that an even more effective cooperation may be worked out.

# *I. State Board of Health and the Medical Profession*

## *A. State Health Officer*

1. To serve as liaison between the medical profession and the official agency of State Board of Education charged with the responsibility of administering the crippled children and rehabilitation program. In such position he should be able to render valuable assistance along the following suggested lines:
  - a. As adviser in all technical and professional matters pertaining to the medical and surgical practices of the program.
  - b. Advise in the selection of professional committees and of orthopedic surgeons to aid in formulating plans and policies for the conduct of a state-wide program.
  - c. Advise in the selection of the professional and technically trained personnel and in the holding of diagnostic clinics.
  - d. Stimulate and promote a sympathetic and understanding spirit of cooperation amongst the medical profession and health workers.

## *B. County Health Officer*

1. To obtain the consent of, and cooperation from, the county medical society in the holding of clinics.
2. To designate a suitable place for holding diagnostic clinics in that county in which there is a clinic center and to aid in holding clinics.
3. To cooperate through the local health unit in checking on and aiding in providing after-care of children who have been hospitalized. (If possible, this should be done directly through the family physician.)

# *II. State Public Welfare Department*

## *A. The Commissioner of Public Welfare*

1. To encourage cooperative service on the part of the county welfare unit through the Bureau of Child Welfare.

## *B. County Welfare Board*

1. To render assistance wherever possible while discharging regular duties in case work with families where social problems are involved in the care of crippled children from indigent families.
2. To advise with field workers from the Rehabilitation Service as to the financial status of the families of crippled children.
3. To cooperate in holding clinics in so far as is consistent with their assigned duties.
4. To aid in securing transportation to and from clinics and to and from hospitals.

5. To assist in locating and reporting crippled children, especially children of pre-school age.

# *III. State Department of Education*

## *A. The State Superintendent of Education:*

1. After suitable conferences with the interested agencies, to prepare for the State's acceptance of the National Social Security Act in so far as it relates to crippled children.
2. After suitable conferences with interested agencies, to provide a program of service for crippled children which embraces medical, surgical, corrective, and other services, care and treatment, hospitalization and after-care for children who are crippled.
3. To administer state and federal funds for crippled children's service.
4. To provide blanks for census enumerators that will lead to the proper listing of crippled children.
5. To establish close and intimate working relations with the cooperative agencies of the medical profession, the State Board of Health and the State Department of Public Welfare.

## *Assigned Responsibilities:*

1. To locate and advise parents as to the importance of taking advantage of the Crippled Children's Service.
2. To make arrangements with hospitals and institutions for caring for crippled children and to arrange payment for expenses incurred.
3. To authorize admission of children for treatment and other care following recommendations of examining surgeons at diagnostic clinics.
4. To visit homes in regular case work and advise with parents.
5. To determine with the aid of local cooperating agencies the financial ability of parents to pay for the care of their children.
6. To check the progress of children confined to institutions and see that adequate records are kept for information of surgeons.
7. To make necessary reports required under the law.
8. To render service to cooperating agencies in connection with their particular programs where such service is desired and can be rendered with the field worker's activities.
9. To stimulate on the part of local organizations and individuals interest in rendering financial support to the program.
10. To keep in contact with those crippled children who have not been fully restored and are still handicapped, through public school officials, looking to the planning of such vocational training as will enable them to become productive citizens.



11. To provide for crippled children, after reaching the age of 16 years, vocational training through the Rehabilitation Service for Adults, followed by placement in employment and general supervision until they have shown ability to carry on successfully for their employers.

B. *County and City Boards of Education:*

1. To cooperate in the education and rehabilitation of crippled children within the limits of their school administrative duties.
2. To cooperate with the field workers of the Crippled Children's Service and the Rehabilitation Service looking to the vocational training and adjustment of crippled people.
3. To provide information regarding crippled children in the respective school systems through the biennial school census and otherwise.
4. To aid clinics held for crippled children by dissemination of information through the teachers of the school.

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## BUREAU OF LABORATORIES

James G. McAlpine, Director

### FOOD POISONING

#### I. INTRODUCTION

The title "food poisoning" for this series of articles has been chosen advisedly. It is realized that chemical poisoning due to arsenic and strychnine, which will be discussed here, is not always caused by oral administration. However, the greater number of cases of poisoning which occur in Alabama from these substances have received the poison either accidentally or premeditatedly, through food.

Food poisoning can be divided into two classes. One of these is chemical in nature and the majority of people who are poisoned here receive either arsenic or strychnine. The second class is bacterial food poisoning, and these are due mostly to infection with living bacteria of the *Salmonella* group.

The sections on chemical food poisoning have been prepared by Mr. H. W. Nixon, State Toxicologist. Having had considerable experience with this kind of poisoning, his remarks are especially pertinent.

#### ARSENICAL POISONING

Acute arsenical poisoning does not present any clinical symptom that is definitely characteristic. Diseased conditions arising from natural causes, particularly those affecting the alimentary canal, resemble the

effects of arsenic and make it difficult, if not impossible, to render a positive diagnosis from the symptoms alone. A chemical analysis of the urine or other excreta is usually necessary before a diagnosis of arsenic poisoning can be made positive.

The effects of other irritants and corrosives may be distinguished from those of arsenic by symptoms that are characteristic. Lysol and carbolic acid can be detected by their odor; phosphorus by the luminous appearance of the vomit in the dark, and the garlic taste; mercurials by the salivation and pains in the mouth, etc. Oxalic acid is more rapid and more drastic in its irritating effects than arsenic, and produces nervous phenomena usually not found in cases of arsenic poisoning. Mineral acids and strong alkalies are distinctly corrosive. They cause rapid and deep destruction of the tissues. However, their action is limited to the part with which they come in contact.

Bacterial food poisoning is frequently mistaken for arsenical poisoning, and vice versa. A laboratory examination is usually necessary in differentiating these two types of poisonings.

In general, the common symptoms of acute arsenical poisoning are pain in the alimentary tract, nausea, purging and straining, scanty and often albuminous urine, and vertigo. After death the alimentary tract shows an inflamed condition. Pathologic changes are usually those of gastro-enteritis, common to the class of local irritants of the stomach and bowels. If the patient should survive for a number of hours, the absorbed poison will set up fatty degeneration of the heart, liver and kidney.

In cases where criminal poisoning is suspected, the specimen should be taken promptly and shipped *under seal* to the State Toxicological Laboratory at Auburn, accompanied by a complete history of the case.

Chronic arsenic poisoning may result from the ingestion of a single large dose; may arise as the result of therapeutic medication; may occur as the result of handling constantly arsenical ore or pigments; or may be produced from inhaling the arsenical dust from clothing, wallpapers, furs, etc. In a certain number of cases it has been administered with criminal intent.

The person falls into "poor health," losing the appetite and all desire for exertion. Other symptoms which usually follow are twinges of pain, sickness and faintness, waxy complexion, loss of weight, skin eruptions, catarrh, inflammation of nerve fibres, and paralysis of the extremities. Even if the poison is discontinued, the paralysis usually lasts for many months, recovery being very slow and generally incomplete. The paralysis may extend until it is general and death ensues from failure of the heart due to fatty degeneration.

In Alabama we have each year a large number of cases of arsenical poisoning from calcium arsenate. The sale of this material is not restricted in the State and there is no coloring agent added to warn the public in cases where it is mistaken for flour. It is a common practice in the rural districts to mix calcium arsenate with flour to be used as an insecticide. There are few farm homes in the State that do not contain a supply of this substance. A convenient chemical is thus available for accidental and homicidal poisonings.

Calcium arsenate is not so deadly as some other forms of arsenic. Recovery from the ingestion of even large quantities is not uncommon. This is probably due to that property of calcium arsenate of producing profuse vomiting within a very short time after the poison is taken. However, there have been many cases of fatal termination from the ingestion of calcium arsenate. Farmers of the State suffer heavy losses of livestock each year from calcium arsenate poisoning.

The practice of coloring calcium arsenate with carbon or some inexpensive dye would eliminate much of the accidental poisoning from this substance.

#### BUREAU OF PREVENTABLE DISEASE CONTROL

D. G. Gill, M. D., Director

#### COMMUNICABLE DISEASES REPORTED DURING 1935

A tabulation of the cases of the various communicable diseases reported in Alabama during 1935 as compared to 1934 and to the median number of cases for the nine year period, 1926-1934, appears below:

	Cases 1935	Cases 1934	Median 1926-34
Typhoid fever	482	678	868
Typhus fever	292	271	72
Malaria	8632	6473	4509
Smallpox	42	23	342
Measles	7224	15443	5200
Scarlet fever	643	879	1211
Whooping cough	1436	2665	1652
Diphtheria	1169	1579	1800
Influenza	14535	3336	6947
Mumps	1074	785	911
Poliomyelitis	61	50	50
Encephalitis	29	31	31
Chickenpox	2112	1426	1426
Tetanus	61	49	57
Tuberculosis	3325	2942	4142
Pellagra	563	374	670
Meningitis	83	43	55
Pneumonia	4449	3200	3200
Syphilis	7346	3135	1998
Chancroid	87	46	89
Gonorrhea	3570	2215	2154
Ophthalmia neonatorum	20	15	22
Trachoma	6	8	16
Tularemia	15	15	8
Undulant fever	54	45	22
Dengue	94	1072	

It will be noted that there were considerable variations in the incidence of many of these diseases. There is no specific means of immunization for most of them and these diseases tend to occur in cycles so that for any one year there may be a very high incidence or a very low one. Measles, for example, was very prevalent during 1934, and there was a carry-over of the epidemic through the early months of 1935. Influenza in mild form appeared during the spring months and then fell to minimum proportions.

Malaria has been on the increase since 1932 and made its appearance much earlier than usual in 1935. The dry summer and fall interfered with mosquito production, however, and after an early peak the disease decreased sharply in the latter months of the year.

The diseases for which preventive measures are available all showed satisfactory downward trends. Typhoid fever set a new low record and for the first time fewer than 500 cases were reported. Diphtheria also set a new low record with a decrease of some 400 cases from the 1934 record. The continued use of toxoid should accelerate this decline. Typhus fever remained about stationary and smallpox was again at a minimum.

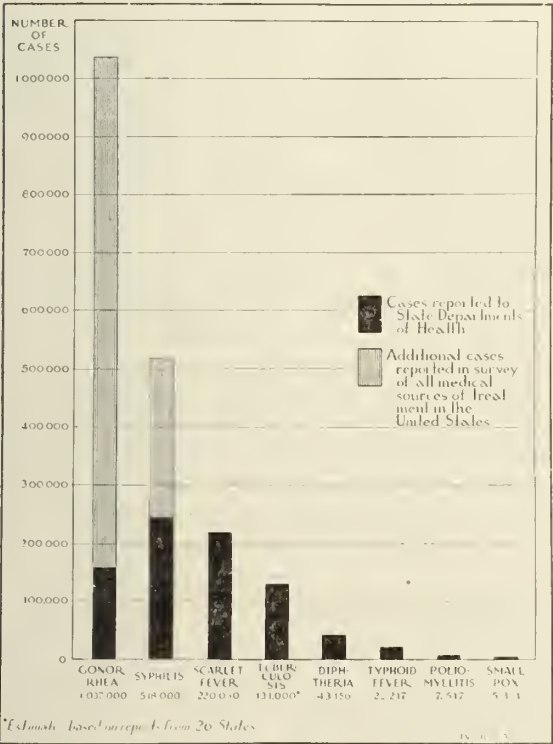
In spite of the widespread epidemic of poliomyelitis in certain parts of the country, Alabama showed an incidence within normal expectancy. Whooping cough and scarlet fever were both low. Many physicians are now using the newer whooping cough vaccines and their efficiency should soon be determined.



The increase in venereal diseases is due to the new cases treated by clinics being included in the general statistics. This practice was not followed formerly.

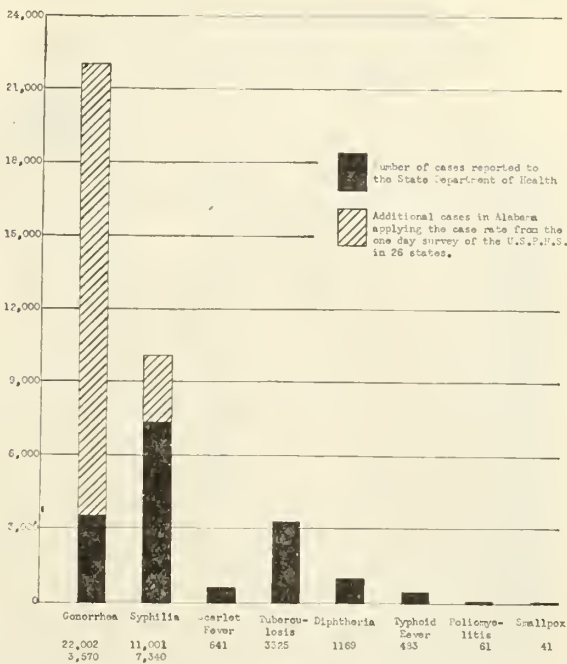
SYPHILIS

In a recent article in Venereal Disease Information—May 1935 (a publication of the United States Public Health Service) some astounding figures on syphilis and gonorrhea are given. The figures for the United States have been based on data received from a one-day census in twenty-six states.



NEW CASES OF SYPHILIS AND GONORRHEA COMPARED WITH OTHER COMMUNICABLE DISEASES IN THE UNITED STATES DURING 1934

It is shown that there are 493,000 individuals constantly under treatment or observation for gonorrhea, and 683,000 for syphilis. The number of fresh infections occurring each year is 518,000 for syphilis, or 4 per 1,000 population, and 1,037,000 for gonorrhea, or 8 per 1,000 population. Seventy-one (71) per cent of patients with syphilis sought treatment after their infection had become late, and 51% of cases of gonorrhea after the disease had reached a chronic state.



NEW CASES OF SYPHILIS AND GONORRHEA COMPARED WITH OTHER COMMUNICABLE DISEASES IN ALABAMA DURING 1935

Comparing the number of fresh infections as found by the survey with the number reported, a great discrepancy is found. There are reported fewer than one-half of the actual cases of syphilis and about one-sixth of the patients with gonorrhea. If each fresh case of syphilis or gonorrhea were investigated for source contacts and spread contacts, many of those referred to above as not seeking treatment would be seen by the doctor before spread had become extensive. It is to be hoped that it will not be long before every venereal disease will be as thoroughly investigated as is a case of typhoid fever.

*"Etiology, Pathology, and Treatment of Peptic Ulcer" is the subject of the paper Dr. Andrew B. Rivers, of Rochester, Minn., will present to the Association, April 22nd.*

*Dr. Edward W. Peterson, of New York City, will discuss "Appendicitis in Infancy and the Younger Group of Children."*

## CURRENT STATISTICS

## \*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

	Oct.	Nov.	Estimated Expectancy Nov.
Typhoid	24	32	80
Typhus	25	37	12
Malaria	858	418	248
Smallpox	0	0	3
Measles	16	28	52
Scarlet fever	60	109	212
Whooping cough	41	74	76
Diphtheria	177	203	356
Influenza	76	161	234
Mumps	12	105	22
Polioyelitis	3	5	3
Encephalitis	1	1	2
Chickenpox	50	212	71
Tetanus	7	7	6
Tuberculosis	238	236	270
Pellagra	28	18	21
Meningitis	2	10	4
Pneumonia	140	245	177
Syphilis	564	802	137
Chancroid	6	7	6
Gonorrhea	254	278	150
Ophthalmia neonatorum	1	1	2
Trachoma	0	1	0
Tularemia	0	0	0
Undulant fever	6	3	2
Dengue	1	0	0
Amebic dysentery	0	2	0
Rabies—Human cases	1	1	
Positive animal heads	75	87	

	Nov.	Dec.	Estimated Expectancy Dec.
Typhoid	32	12	44
Typhus	37	18	10
Malaria	418	109	114
Smallpox	0	1	7
Measles	28	37	337
Scarlet fever	109	59	164
Whooping cough	74	32	97
Diphtheria	203	102	232
Influenza	161	486	411
Mumps	105	124	31
Polioyelitis	5	4	2
Encephalitis	1	1	2
Chickenpox	212	236	143
Tetanus	7	2	5
Tuberculosis	236	209	254
Pellagra	18	9	22
Meningitis	10	6	3
Pneumonia	245	539	380
Syphilis	802	540	136
Chancroid	7	2	4
Gonorrhea	278	218	127
Ophthalmia neonatorum	1	6	2
Trachoma	1	0	1
Tularemia	0	0	1
Undulant fever	3	3	3
Dengue	0	0	0
Amebic dysentery	2	1	0
Rabies—Human cases	1	0	0
Positive animal heads	87	77	

\*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years. With the venereal diseases, clinic cases were not included prior to this year.

*The Health Commissioner of the State of New York, Thos. Parran, Jr., will address the Association on April 22nd, using the subject, "The Next Achievement in Public Health."*

*Dr. W. W. Bauer of the American Medical Association will disabuse our minds of "Popular Beliefs That Are Not So."*

## Woman's Auxiliary

Mrs. Thos. E. Dilworth  
State Publicity Chairman  
Huntsville, Ala.

With the year 1936 in its infancy it is hard for us to realize that we are entering into the last quarter of our fiscal year. Much has been accomplished during the year 1935, but we are always looking forward and striving for even greater fields to conquer. With this thought in mind, may each of us put forth our very best effort for further accomplishments in our own particular phase of work.

Just here may I renew my plea to each and every auxiliary for news items. We profit by the exchange of ideas concerning our work, and are we not all one big happy family interested in the activities of our sister auxiliaries? Please, each of you see that I am furnished with a news letter by the 15th of each month. It will be deeply appreciated.

I wonder how many auxiliary members know that the subject of the high school debating teams which are sponsored by the universities of various states is "That the several states should enact legislation providing for a system of complete medical service available to all citizens at public expense." Although this may appear to be an undesirable subject for debate we believe that the students should be given the benefit of the best material that can be obtained. Approved information may be obtained by writing Dr. R. C. Leland, Director, Bureau of Medical Economics, at 535 N. Dearborn Street, Chicago. Already our husbands are getting requests from these students for information. Isn't this a wonderful opportunity to place the right kind of information in the hands of the laity? May we bear this in mind and should this question arise in our particular section let us see that students are furnished with correct facts.

Any county auxiliaries preparing their programs for the coming year will please communicate with Mrs. Allgood, our State Program Chairman, who is able to give them many suggestions and will be glad to assist them. Bear in mind the importance of a health program, preferably an open meeting and a program featuring Jane



Todd Crawford; also that Hygeia is given its deserved importance and, if possible, place this magazine in the home of each member, in schools and in libraries.

The Bessemer Auxiliary sends in a report that makes us realize here is a wide-awake auxiliary. In addition to their regular meetings which follow a luncheon with two members as hostesses, they plan their December meeting as a Christmas dinner to which their husbands are invited. They have had a paper read on Jane Todd Crawford and have placed the magazine "Hygeia" in the high school. They contribute a monthly sum for a milk fund to one of the schools; also something to their local community chest. At their last meeting on January 8th, plans were made for their annual tea and linen shower for the Bessemer Nursing Unit, to be held at Mrs. J. R. Horn's on February 12th. Their new officers for the coming year are: President, Mrs. G. D. Waller; Vice-President, Mrs. C. J. Colquitt; Secretary, Mrs. F. C. Smith; Treasurer, Mrs. S. W. Wright; Reporter, Mrs. W. L. Nichols.

The Madison County Auxiliary held its regular monthly meeting preceded by dinner on the second Tuesday in January, with two members as hostesses. A health meeting was planned, with a speaker, in connection with our local hospital staff.

Our President has been rather busy since our last report, having spoken to the Marshall County Auxiliary at Albertville on the first Tuesday in January. She plans to be a guest of the Auxiliary in Anniston on the second Tuesday in February, and of the Bessemer Auxiliary the following Wednesday. In March she will go to Montgomery to make final plans for the Annual Convention of the Woman's Auxiliary to the State Medical Association, to be held in that city on the 21st of April, 1936. A nominating committee has been appointed which will report at that time.

ANNUAL MEETING  
MONTGOMERY  
APRIL 21-22-23

## Truth About Medicines

### PROPAGANDA FOR REFORM

Aluminum in Food.—Propaganda as to possible dangers resulting from the use of aluminum cooking vessels is so persistent that one suspects ulterior motives in its background. The problem has been investigated at various times, and in the presence of a renewed criticism of the widespread employment of aluminum vessels another recent study of the subject has appeared under the auspices of the British Ministry of Health. The accurate determination of aluminum in food and biologic material, according to Monier-Williams, who wrote the report, is a difficult matter. The amount usually present is small and cannot easily be separated completely from iron and other metals. The figures for the amount of metal taken up by food from aluminum vessels vary considerably, owing to different conditions of experiment. Distilled water, whether hot or cold, has almost no action. Hard waters, however, corrode aluminum slightly and the same is true of organic acids. Aluminum is readily acted on by alkalis, and cooking utensils are therefore liable to be damaged if cleaned too often with soda. Aluminum salts in doses that are not unreasonably high have been shown to have some action on digestive processes. There is no convincing evidence, however, that aluminum in the amounts in which it is likely to be consumed as a result of the use of aluminum utensils has a harmful effect on the ordinary consumer. (J. A. M. A., January 18, 1936, p. 218.)

Cyclopropane for Anesthesia (Ohio Chemical and Manufacturing Co.)—The Ohio Chemical & Manufacturing Co. presented Cyclopropane for Anesthesia for the consideration of the Council on Pharmacy and Chemistry for the purpose of issuing a preliminary report. Cyclopropane was first noted as trimethylene by von Freund in 1882. It is an inflammable gas, less explosive than ethylene or nitrous oxide-ether mixtures. No explosions have been reported and the closed circuit technic of administration helps to avoid them. More than 5,000 clinical administrations have been reported in patients of all ages

and in practically all surgical conditions. In obstetrics the agent seems to have been more useful than in other fields. It is recommended for all types of individuals, and in grave circulatory risks and extremely ill patients, largely on the basis of the high oxygen concentration possible with this anesthetic. The induction is rapid and pleasant, and there is no choking or burning. It is a powerful agent of low toxicity in adequate concentrations and is nonirritating. The usual preoperative procedures have been used with this agent, and also the barbiturates and spinal agents. Less premedication is said to be required and even preferred with this agent. In ordinary concentrations there is said to be very little effect on the blood pressure. The effect on the heart is slight, as indicated by the clinical notes and electrocardiographic studies. In the 4,400 cases referred to by Waters and Schmidt in their most recent study, cyclopropane suffered by comparison on the basis of cardiac complications (in spite of the advantages of high oxygen concentration). These investigators report a mortality of 4.16 per cent as compared with 3.99 per cent with other agents. This figure is not at marked variance, but the attempt is ever to prevent just such small increases. The Clinical Congress of Anesthetists which met Oct. 15, 1934, in Boston, placed this agent on a carefully controlled program of distribution and use for one year. The Council has deferred further consideration of Cyclopropane for Anesthesia (Ohio Chemical and Manufacturing Company) until more evidence of its usefulness is available. (J. A. M. A., January 25, 1936, p. 292.)

**The Antianemic Principle of the Stomach.**—Since the discovery of the effect of liver and of stomach in the treatment of pernicious anemia, many attempts have been made to elucidate the physiologic processes involved and to clarify the nature of the hematopoietic principle or principles of these organs. The experiments of Greenspon (The Journal A. M. A., Jan. 25, 1936, p. 266) now provide a simple explanation for the known facts without hypothesizing the existence of an extrinsic factor. When desiccated stomach was incubated with pepsin and hydrochloric acid and subsequently

administered to a patient with pernicious anemia, a reticulocyte response did not occur. Stomach tissue was then depepsinized and administered; a definite hematopoietic effect resulted. The depepsinized tissue incubated with pepsin and hydrochloric acid was inactive; but when it was incubated with hydrochloric acid alone (in the absence of pepsin) reticulocytosis was obtained on administration. Thus it was demonstrated "that (1) the pepsin content of normal hog gastric mucosa could be removed without destroying the antipernicious anemia principle, (2) that peptic activity destroys the antipernicious anemia principle and (3) that hydrochloric acid alone does not." On the basis of his experiments Greenspon concludes: The beef (or other source of "extrinsic" factor) when incubated with normal gastric juice binds pepsin and prevents it from inactivating the antianemic principle which otherwise occurs unless the precautions adopted by Greenspon are used. Utilizing the knowledge that the antianemic principle in the stomach is inactivated by pepsin, Greenspon has been able to improve greatly on the potency of preparations of stomach tissue developed by Sharp and by Sturgis and Isaacs and of concentrates of gastric juice used by Morris. (J. A. M. A., January 25, 1936, p. 295.)

**The National Formulary VI.**—When Congress created the Food and Drugs Act in 1906 it included as official standards for the purpose of the act not only the United States Pharmacopeia but also the National Formulary, a book published by the American Pharmaceutical Association. The National Formulary was characterized as a standard only for those preparations which are not provided for by the United States Pharmacopeia. The Sixth Revision, which is now available, is superior to previous issues in that it follows the style of the Pharmacopeia rather than being divided into three sections. Eighty of the 119 articles omitted from the Pharmacopeia have been incorporated in this volume. There are 150 other admissions and 319 deletions. The largest single group is the Ampules, some containing certain new and old Pharmacopeial items. (J. A. M. A., December 28, 1935, p. 2164.)



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### RADICAL TREATMENT OF RECTAL STRICTURE

By

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When we speak of benign rectal stenosis we should say, preferably, non-malignant, for many rectal strictures produce so much suffering, ill health and, finally, invalidism and death that they cannot be properly referred to as benign. Conservative treatment of any stricture, whether it be of the rectum, urethra or other tubular viscus, is very discouraging. The patient dreads dilatations, whether administered by himself or physician, to such extent that treatment is neglected. The sufferer goes from doctor to doctor until, in the case of rectal stricture, he becomes thoroughly demoralized, intoxicated from absorption from the bowel, fistula may form, and finally there is complete obstruction ending in death, if not relieved. Vernon Davis, in Dean Lewis' Surgery, states, in speaking of inflammatory rectal stricture, "Where serious stricture has formed, I have seen no permanent good come from the passage of bougies or dilators. The benefits were purely temporary."

Any injury or infection of the rectal wall, of its mucosa, or of the perirectal tissues, with extension to the rectum, may eventually produce a stricture. In older men we frequently encounter annular strictures just above the sphincter, the result of the formerly popular Whitehead operation. But they may occur after any type of hemorrhoidal operation, especially where infection has taken place or where postoperative hemorrhage occurs, necessitating the application of ligatures. Such low strictures, which involve only the mu-

cosa and are not complicated with ulcerations, yield readily to dilatation.

Contrary to the former conception, instead of syphilis being a frequent cause of rectal stricture it probably is the etiologic factor in less than 10% (Gant). When a person with stricture is found to have lues, this should be treated but the stricture should be considered as a separate entity. Lacerations during labor are a frequent cause of rectal stricture in women. More often than is recognized, deep lateral lacerations of the posterior vaginal wall occur, generally produced by the tip of the forceps blade. These lacerations become infected with involvement of the rectal wall, and persistent scar tissue forms which later produces stricture of the lumen.

A stricture may begin as a simple annular constriction low in the rectum but the constant pressure of feces on its upper surface produces ulceration with progressive extension of the inflammatory process upward. The whole rectum becomes involved, sometimes for several inches, the wall becoming thickened, fibrotic and contracted and the lumen a tortuous, ulcerated and almost impervious channel. Such a condition produces invalidism and eventually death, if not relieved.

In low strictures, less than three inches above the anus, internal or external proctotomy may be practiced. The former is liable to produce serious hemorrhage, difficult to control and may be followed by deep infection. The latter is often followed by incontinence, and continued treatment by dilatation is necessary after either operation. I might say that I have seen serious and troublesome hemorrhage occur after dilatation of a simple rectal stricture with a Wales' bougie.

When a rectal stricture does not respond

easily to dilatation, or when ulceration is present, as evidenced by the passage of blood and pus, alternating constipation and diarrhea, the following more radical procedures should be considered:

#### 1. COLOSTOMY

A number of years ago a young man, 23 years of age, came to me with a well developed rectal stricture about three inches above the sphincter, necessitating his keeping his stools liquid. From the stricture there were several fistulae extending to the perineal region and one well down on the inner side of the thigh. His Wassermann was positive. The fistulous tracts were opened, the incision being carried through the sphincter, and the stricture incised posteriorly, the wound packed and allowed to heal slowly. The rectum was dilated at intervals and antileptic treatment given. His health improved but the stricture continued to contract. A left inguinal colostomy was performed. He soon had complete control of his bowel movements, regained his health, and in a few months married a very pretty young woman. He came to see me a year or so ago and stated that although his work required him to drive an automobile all day he did not have to wear an appliance over his colostomy and was free from all rectal symptoms.

I have performed colostomy in a number of similar cases of rectal stricture since with equally gratifying results. If it is thought that there is a possibility of the ulcerated stricture healing, as in acute inflammatory lesions generally associated with venereal disease, and rather frequent in negroes, and the natural course of the bowel movement resumed, a temporary type of colostomy may be performed but if this hope cannot be entertained it is better to make a complete division of the sigmoid. This prevents any possibility of fecal material passing over into the lower segment, and also makes a more satisfactory colostomy—one that is less likely to contract and retract. In one case, when I made a mid-line incision to explore, on the suspicion of malignancy, I brought the proximal end of the lower segment out though this incision so that the diseased rectum could be more easily excised, if this should be necessary later. However, in this case, a lady in her

sixties, the inflammation has so cleared up that she has very little trouble and leads a comfortable and active life.

#### 2. COLOSTOMY AND ABDOMINO-PERINEAL EXCISION OF THE RECTUM

Even after a colostomy it may be that the discharges cannot escape below, so that later excision of the rectum may be desirable as in the following case:

Mrs. D., white, aged 45, was referred to me in September 1932 by Dr. Barton, of Montgomery.

She had been operated on elsewhere some 18 years before for lacerated perineum and removal of the appendix and an ovary. About six years later she began to have symptoms of "locked bowel." The bowels would "close up," necessitating strong cathartics and enemas. She was treated for five years by dilatations of the rectum but frequently had spells of obstruction, when she became distended and vomited. She passed blood and pus from the rectum and had attacks of diarrhea. She had very high fever at times and had been bedridden for a year when she came to me.

On admission it was impossible for her to have a formed movement. She stated that if she became constipated she had great difficulty in passing a "particle as large as her little finger."

The finger encountered a dense stricture about two inches above the anus. The small opening seen on introduction of the speculum would not admit a uterine sound. Through the vagina the rectum was felt as a firm mass about an inch in diameter, extending up as far as one could reach.

Under local anesthesia a loop of the sigmoid was brought through a left muscle-splitting incision, sutured in place and later opened. A note of July 1933 records that she "has gained many pounds in weight, feels well. Takes soda and water in A. M. and has one movement of bowels (through colostomy) and then no more afterwards for that day."

A few weeks later she developed arthritis of the right knee and ankle. As her teeth were bad, all of these were removed. There was still some discharge of pus from the rectum. At times the rectum became full and sore. She developed a urinary infection.



The lower segment of the bowel was washed out frequently and attempts at dilatations were made from time to time. However, the rectum continued to block and she had fever and pain.

From examination with probe and x-ray after injection, it was estimated that the stricture extended upward for six inches. As this closed, unless frequently dilated and irrigated, it was decided to resect the diseased rectum entirely.

On October 24th, 1935, the abdomen was opened in the midline, the sigmoid divided below the colostomy and freed down to the levator, and the abdominal wound closed. An incision was then made from the coccyx forward, around the anus and the whole rectum removed.

She made a nice recovery and is now well. She has never worn anything over the colostomy but a piece of oiled linen and a few sheets of tissue paper.

### 3. PERINEAL RESECTION

When the stricture is below the peritoneal reflection, that is, does not extend more than three or four inches above the anus, the diseased portion of the rectum may be resected from below and the natural anal opening preserved. Sacral excision, as in the Kraske operation, with anastomosis has been practiced but the risk of the operation, the likelihood of fecal fistula and the often prolonged convalescence make this latter operation a very poor one, either for stricture or carcinoma.

The following case, in which resection of the lower end of the rectum with preservation of the natural anal outlet was performed, presents some interesting features:

Mrs. E., white, aged 28 years, a telephone operator, was referred to me, March 15, 1932 by Dr. W. V. Stough, on account of prolonged menstrual periods and "hemorrhoids." She had never had any serious illness or operations but had had two children, the youngest 6 years old.

There was no perineum and there was a small fistula between the rectum and vagina. About two inches above the anus was a firm stricture below which the rectum was very inflamed. The cervix was lacerated. The Wassermann was negative.

At operation on March 22, 1932, the cervix was dilated and 50 mgs. of radium inserted and left eighteen hours. The stricture of the rectum was dilated with the finger and the perineum repaired, closing the fistulous tract. The perineum healed nicely, and the rectal stricture was dilated every week with the finger. By July she had fully recovered and there was practically no tightness in the rectum.

On July 29, 1932 she returned on account of foul smelling vaginal discharge. Two weeks before she had had a chill and high fever with tenderness in the lower abdomen. On August 1, 1932 the cervix was dilated and considerable soft, yellowish, foul smelling, grumous material and pus were removed from the uterus.

The diagnosis was missed abortion with infection, although the possibility of necrosis from radium was considered. She improved and was discharged Jan. 3, 1933, with the rectal stricture apparently well.

On March 31, 1934, one and a half years later, she returned on account of rectal stricture which caused pain. It was found to be almost closed but was dilated to No. 28 F.

As dilatations seemed to offer very little and the stricture extended for only about two inches above the anus, and as there was considerable ulceration as evidenced by the discharge, resection of the lower end of the rectum was decided upon.

An incision was made on April 28th, 1934 from the coccyx through the anal sphincter posteriorly and the rectum freed up to the peritoneal reflection. It was possible to push the peritoneum up for a short distance. The anal mucosa was dissected free and the rectum pulled down so that the diseased portion, about three inches, was entirely below the perineum. The rectum was fastened to the levators with several sutures. The levators were approximated and the skin closed, with a small drain posteriorly. The strictured area, which was firm and cord-like, was cut away and the rectal mucosa sutured to the skin.

She made a good recovery and healing was excellent. She left the hospital on May 17.

In August 1935 she returned at the request of her physician. She had married

again and although she had not menstruated for three years was seven months pregnant. On account of possible irreparable injury to the perineum and rectum should a vaginal delivery take place, cesarean was decided upon. This was done September 15th, because of premature rupture of the membranes, and a living boy baby delivered. He is now fine and healthy and the mother has had no further trouble with her rectum, bowels moving twice daily with perfect control.

Many cases of rectal stricture occur in negroes and are often associated with venereal disease. They are, from many standpoints, difficult to treat. They often end fatally. If these patients could be prevailed upon to have a temporary colostomy, followed by suitable treatment with salvarsan, tartar emetic and then dilatations, the colostomy could later be closed.

Both the laity and the medical profession have an unwarranted dread of colostomy. Except for a few very low cases a permanent colostomy for carcinoma of the rectum is essential for proper removal. The large number of such cases attest its usefulness and comfort. Colostomy should be resorted to with little less hesitation in benign rectal stricture. With a well made left sided colostomy, there should be no leaking so that no complicated appliance need be worn; and by training the bowel with daily irrigations at first one or two regular movements can be obtained each day without any soiling in the intervals.

It has been my observation that so-called conservative treatment of well developed rectal strictures is most unsatisfactory and I strongly urge that colostomy, with excision of diseased rectum if necessary or perineal resection of the strictured area, be more frequently resorted to.

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**Bright's Disease**—Sweating and catharsis should be avoided. The amount of urea excreted by these measures is negligible. Both of these measures exhaust the patient, especially if long continued. Our efforts should be directed toward getting rid of the edema by increasing the output of water through the kidney, as this will carry with it nitrogenous waste.

Sodium bicarbonate should be avoided, as it will probably increase the water retention.—*Miller, Texas State J. Med., February 1936.*

## SURGICAL TREATMENT OF ULCERS OF THE STOMACH AND DUODENUM\*

By

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Wonderful strides have been made in the surgical treatment of diseases of the stomach and duodenum since the year 1881 when Bilroth first resected the pyloric portion of the stomach and joined the remainder of the stomach to the duodenum. Since then many methods of treating peptic ulcer have been tried. At the present time no chronic condition offers better chances for satisfactory results by surgical treatment than selected cases of gastric or duodenal ulcer.

It is agreed by most surgeons that peptic ulcer should be treated surgically only after reasonable attempts at cure or relief of symptoms by medical means have failed. The indications for surgery may be divided into positive and relative. The positive indications are acute perforation, marked degrees of pyloric stenosis and large gastric ulcers in which carcinoma is probable; also certain bleeding ulcers. The relative indications are all cases of gastric ulcers which do not heal promptly under medical care, duodenal ulcers which continue to cause marked discomfort under adequate medical treatment, mild or moderate pyloric stenosis and certain bleeding ulcers.

Records of large clinics show that the results from surgical treatment of duodenal ulcer in cases which have had symptoms only a short time, and also those in young people, are often disappointing. It is the rule of many surgeons, when there is not a positive indication for surgery, to resort to this form of treatment early in gastric ulcer, on account of the possibility of malignancy, and to reserve surgery for the later stages of duodenal ulcer.

In cases of peptic ulcer there may be one or more of several pathologic conditions associated with the ulcer. Carcinoma, chronic gastritis, pylorospasm, and hyperchlorhydria are the most common. It is the presence of one or more of these associated conditions that is frequently responsible

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\*Read before the Northeastern Division of the Association, Scottsboro, October 15, 1935.



for the symptoms in peptic ulcer; therefore numerous surgical procedures are used in their treatment, certain procedures having been designed to take care of certain pathologic conditions.

Taking into consideration the presence of the ulcer only, simple excision might be used. In the presence of carcinoma, or where it is suspected, and in cases in which an associated severe chronic gastritis is present, partial gastrectomy should be the operation of choice. Pylorospasm and pyloric stenosis may be dealt with by gastro-enterostomy or pyloroplasty. The free hydrochloric acid factor is one that has given surgeons much concern. In cases with a marked hyperchlorhydria the greatest reduction in acidity may be expected from partial gastrectomy, gastro-enterostomy next and by pyloroplasty last.

At the present time we find that in the treatment of duodenal ulcers some surgeons are using, almost routinely, gastro-enterostomy, others pyloroplasty, and still others partial gastrectomy. From this we may reasonably conclude that to the present time no one method of treatment has proven entirely satisfactory; that, by having at our command various methods, the one best suited for the individual case may be used and best results obtained thereby.

Gastro-enterostomy, either alone or with excision of the ulcer, has been in the past, and probably still is, used more than any other surgical procedures in peptic ulcer. In properly selected cases the results obtained are excellent. It gives rest to the ulcerated area, takes care of any stasis in the stomach due to pylorospasm or pyloric stenosis, and, by a regurgitation of intestinal contents into the stomach through the stomach, the acidity in the stomach is reduced.

At the present time in certain clinics in this country pyloroplasty is very popular. It has many advantages; also some disadvantages. It takes care of any stasis in the stomach due to pylorospasm or pyloric stenosis and is more physiologic than gastro-enterostomy since it allows the acid gastric contents to continue to pass into the duodenum. The duodenum should be better able to take care of this than the jejunum, which, under normal circumstances, is subjected only to alkaline material. Another advantage is that frequently the ulcer can be ex-

cised at the time the incision for the pyloroplasty is being made in the pylorus.

Partial gastrectomy is used routinely by many surgeons for gastric ulcer and by most surgeons if malignant gastric ulcer is suspected. In Germany and Austria it is used routinely not only for all gastric ulcers but also for practically all duodenal ulcers. Up to the present time such radical treatment for duodenal ulcer has not become popular in America. However, it is used very extensively by a few American surgeons.

It is admitted by all who are familiar with after results in surgery of the stomach and duodenum that certain patients who have had pyloroplasty or gastro-enterostomy do not recover completely or are not improved by the operation. A study of these cases shows that they frequently fail to get a healing of their ulcer (if it has not been excised), or new ulcers form, either in the stomach, the duodenum or at the gastro-jejunal anastomosis. Statistics on this subject vary widely. Some show recurrent ulcers in only about 21½%, others as high as 40%. It is likely that this difference in statistics results from different follow-up methods. The presence of a recurrent ulcer can be determined definitely only by complete examination, including x-ray of the gastro-intestinal tract.

Dr. A. A. Berg of Mt. Sinai Hospital in New York, who is very enthusiastic about partial gastrectomy in duodenal ulcer, states that with a very careful follow-up system his clinic finds that peptic ulcers recur in 33% of those patients who had pyloroplasty or gastro-enterostomy. The surgeons of Austria show also a similar percentage of recurrent ulcers.

It is the opinion of many surgeons that the high acidity of the gastric contents is responsible for the recurrence of ulcers. It is stated that ulcers do not form in an achlorhydric stomach and do not recur or reform in a stomach that has been made achlorhydric. We know that the relationship between acid production and ulcer is extremely important.

It is the opinion also of Dr. Berg and of the surgeons of Austria and Germany that there is practically always associated with peptic ulcers a form of chronic gastritis and that the gastritis is the first stage in the pathogenesis of an ulcer. Therefore,

even if the ulcer is removed and a pyloroplasty or gastro-enterostomy is done, and the gastritis and high gastric acidity persist, a recurrence of ulcer may be expected.

It is agreed by all surgeons that a partial gastrectomy is the most effective way of permanently reducing the gastric acidity, and that with this operation the recurrence of ulcer is extremely unlikely.

There is very little doubt that the best final results in peptic ulcer are obtained by partial gastrectomy, but unfortunately it is a much more radical and dangerous operation than either pyloroplasty or gastro-enterostomy. The operative mortality in the former is about 3½%, and in the latter only about 1%.

Are we justified in doing routinely a partial gastrectomy with its operative mortality of 3½% because we have recurrence in a certain percentage of cases? I do not think we are. I believe each individual patient should be studied and the operation used that is best suited to the case. I believe partial gastrectomy should be reserved for those patients in whom there is a possibility of malignancy or a very high gastric acidity, and other cases in which less radical operations have proved ineffective.

Certain complications are liable to arise in a case of peptic ulcer which may make surgery imperative. The most common are acute perforation and hemorrhage.

It is the consensus of opinion that cases of acute perforation should be treated surgically as soon as the diagnosis is made. The mortality rate is very low if surgery is resorted to within the first eight hours after perforation occurs. The rate increases rapidly with the passing of every hour. In cases coming to surgery late, with the patient in poor general condition, all surgeons resort to simple closure of the perforation, if it is thought the patient can stand any surgery at all. There is some question as to whether it is best to drain the peritoneal cavity. I personally believe it is best not to drain if a good closure of the perforation has been obtained.

There are some large perforations with marked infiltration of surrounding tissues in which it is impossible to get a satisfactory closure. In these cases it has been my practise to suture the omentum over the

perforation and establish drainage. The few cases that I have handled in this way have done very well. I recently became acquainted with a method which is said to take care of these cases very nicely, but I have not had opportunity to try it. A rubber drainage tube is inserted into the perforation and brought out through the abdominal incision. The omentum is wrapped around the tube from the perforation to the abdominal wall. After a few days the tube is removed, the sinus discharges for a time, then closes.

There is some difference of opinion as to the best procedure in cases of perforation seen in the first few hours with the patient in good condition. The question is whether simply to close the perforation or to do some radical operation. Probably the majority do a simple closure. Some do a closure of the perforation and a gastro-enterostomy; others excise the ulcer, if it is properly located, and do a pyloroplasty. The Austrian surgeons do a partial gastrectomy. On two occasions I have excised the perforated ulcer and done a pyloroplasty; in another, a simple closure with gastro-enterostomy. These cases did well; but my usual practise is simply to close the perforation. It has been my experience that those cases which survive the perforation usually do well afterwards, as far as the symptoms of ulcer are concerned. Of course, they should be kept on an ulcer regimen for quite a long time.

At this time I wish to discuss briefly one point regarding after treatment in gastro-intestinal surgery, and especially in perforated ulcers. It is the problem of taking care of intragastric and intraduodenal tension. This can be very effectively controlled by continuous gastric siphonage which was first advocated by Wagenstein for certain types of intestinal obstruction. In many cases I believe this is a life saver. The procedure makes the patient much more comfortable and keeps the stomach and duodenum empty of both gas and fluid. Tension is relieved on the suture lines and there is no danger of leakage of gastro-intestinal contents into the peritoneal cavity. I have used this method in several cases with most gratifying results. In patients with perforated ulcer, whose condition is too serious for surgery, this method



may be very helpful in keeping the stomach and duodenum empty.

Hemorrhage from peptic ulcer often presents quite a problem. It is general practice not to advise surgery during the period of bleeding, especially during the first hemorrhage. It has been found, when surgery is attempted at this time, that frequently the bleeding point can not be found; further, that the chances of recovery are better without surgery than with it. The patient should be treated by complete rest, nothing given by mouth, and blood transfusions if the condition of the patient warrants it. After the bleeding has stopped we then have an opportunity to work up the case properly and make a positive diagnosis. Frequently, on proper medical treatment, the patient never has another hemorrhage. However, if more hemorrhages occur, surgery should be resorted to.

## TREATMENT OF PROLAPSUS UTERI\*

By  
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Prolapse of the uterus is not seen so frequently now as twenty years ago, and to the degree that obstetrics is handled by trained obstetricians will it be seen even less often in the future. Of 156 cases reported by Fathergill in 1921, thirty-two were nullipara; and of 138 cases reported by Maier and Thudium, in 1932, five were nullipara. However, a vast majority of women with prolapsus have borne more than one child, and with the assistance of indifferently trained obstetricians or midwives.

That the uterus is held in its normal position in the pelvis by being supported from below by the perineum and from above by the round ligaments is no longer maintained. The pelvic fascia, which is made up of unstriated muscle and connective tissue, attached distally to the pelvic walls and proximally to the cervix at its junction with the vagina, holds the uterus slung in its correct posture. The normal round ligaments pull the top of the fundus forward. The normal pelvic fascia not only supports the weight of the uterus and that borne by the

uterus but holds the cervix in its posterior position.

There are many different procedures for the correction of the various degrees of prolapsus uteri. Any degree of prolapse of the uterus is almost necessarily associated with a certain degree of cystocele. Since the bladder is normally attached to the uterus, a descend of the uterus will carry the bladder with it even though there be no weak spot in the pelvic fascia just below the bladder. Most frequently there is a rather pronounced cystocele associated. As Kelly has shown, the correction of this malposition is brought about by the utilization of a host of ideas, advanced during the past thirty years. As the true relations and functions of the pelvic fascia have been more clearly visualized, succeeding surgeons have been able to come nearer to restoring the normal relations of the pelvic viscera.

To a certain number of these cases, for one reason or another, surgery will not be available. Frequently a very debilitated individual, who is too poor a surgical risk for operation, will have her most disagreeable symptoms from a prolapsed uterus and cystocele. A majority of these patients can be greatly benefited by the use of some type of pessary. The soft rubber doughnut, hard rubber ring, or hard rubber diaphragm pessaries will be best suited to different cases. The pessary which has been the most serviceable one in my hands has been the Prochownich, a hard rubber diaphragm with perforations. It is most important that these patients keep their pessaries scrupulously clean, because of the ease with which the vaginal membrane becomes inflamed. A cleansing douche should be taken once or twice daily and the pessary should be changed once in three or four weeks. Dr. B. C. Hirst, on seeing a medical student eating an apple just before ward rounds, told him this story. He said that the old apple woman who had her cart in front of the hospital suffered from prolapsus uteri, and that each morning she selected the hardest apple in her cart and used it most satisfactorily as a pessary. Next day the apple was always more mellow.

In 1907, Fathergill, of Manchester, proposed before the Edinburgh Obstetrical Society an operation for prolapse of the uterus, in which the denudation for anterior

\*Read at a meeting of the Walker County Medical Society, Jasper, November 8, 1935.

colporrhaphy was carried high up and far out to each side of the cervix in such manner as to expose the cardinal ligaments at the junction of the bases of the broad ligaments with the cervix. The closure of this triangular denudation, made with interrupted catgut sutures, was done in such manner that the cardinal ligaments were brought together to the front of the cervix and shortened enough to push the cervix back into the hollow of the sacrum and sling the uterus high in the pelvis, with the fundus falling into the position of anteversion. Six years later he added to this procedure the amputation of the cervix, making his denudation quadrangular instead of triangular. The incision starts one-half inch posterior to the external urethral meatus, goes to a point well out from the cervix on a line with or just posterior to the external os of the cervix, and from there to a point at the midline just posterior to the cervix. A similar incision on the other side outlines the quadrangular area of denudation. The anterior, posterior and lateral flaps of vaginal mucosa are dissected to the cervix, and then the elongated or eroded cervix is amputated. The closure of this area varies from the first procedure only in that the vaginal mucosa posterior to the cervix is brought to the cervical canal by three interrupted sutures.

This operation, which was perfected in 1913, was performed by Fathergill on 156 cases in three years, 1914, 1915 and 1916. Of these 156 cases, reported in 1921, permanent cures were made in 97.3%. In 1932 Maier and Thudium reported 138 such operations done from 1918 to and including 1930, with 98% cures. Maier and Thudium propose this as a standardized operation for all prolapsus cases.

This procedure seems to more nearly restore the normal relations of the pelvic viscera than any other that has been attempted by me. Every one, in doing someone else's operation, will vary it to some extent, possibly because he may not understand all the steps of the operation perfectly. I have not been convinced that the cystocele is perfectly cared for by the typical Fathergill operation and have added to it an implicating suture, used by the late John G. Clark. It is a running suture of No. 00, twenty-day chromic catgut which starts

just posterior to the external urethral meatus and goes backward and across the thinned out pelvic fascia covering the cystocele. Two layers of this suture will efface the cystocele.

In the last fourteen months I have performed the operation on fifteen patients. No untoward results of any kind were observed. The cases selected have been, with three exceptions, elderly women who were poor surgical risks. Although others have reported perfectly normal child bearing after this operation, I have sterilized the only three patients of child-bearing age in this group, there being other indications for sterilization. Five of this group were such poor surgical risks that no one would have attempted abdominal operations. Their ages were 51, 57, 60, 64 and 70. The lowest blood pressure was 148/90 and the highest 175/100. None had any marked kidney trouble. A slight trace of albumin and a few white blood cells were found in the urine of two. Two had histories of mild gallbladder trouble. All were given preliminary rest in bed for several days and other treatments indicated. Four of them had no complications and were agreeably surprised to have so little discomfort. The convalescence of the fifth was complicated by a slight attack of gallbladder colic, and, for two days, some frequency and pain on voiding. The fifteen cases reported were all operated on before January 1934. Since that time I have performed the operation on about twenty other patients and the results seemingly have been just as satisfactory.

In addition to the Fathergill operation, a rather high posterior colporrhaphy was done on each of the fifteen cases.

Although Fathergill, Maier and others propose the Fathergill operation for extreme cases of prolapsus uteri, it seems to me that the modified Mayo vaginal hysterectomy is much the better operation. It does not seem probable that good results could be obtained by the Fathergill procedure in a patient presenting a complete prolapse of the uterus and vagina, as is occasionally seen. I have never had a recurrence of cystocele or rectocele following vaginal hysterectomy.

The prolapse that does not descend more than an inch and a-half below the introitus,



and this is the most advanced degree that I have dealt with in my fifteen cases, can be corrected most satisfactorily with the Fathergill procedure. The anterior or posterior position of the fundus uteri in the average woman past sixty is, I believe, of little significance. In most of them the fundus is extremely atrophic, freely movable and may assume any posture. I have found that the posture of the fundus after operation has been anteversion.

My experience with the interposition operation has been purely postoperative, and such that I never perform it. I know that a great many gynecologists prefer it above all others for prolapsus in women past the menopause.

We have in the Fathergill operation a procedure that can be utilized to good advantage in those patients whose general condition will not permit of a combined vaginal and abdominal operation; one that may be used during the child-bearing period; and one that gives a more perfect restoration of the normal relations of the pelvic viscera with a minimum of shock and complications during convalescence.

938 South Twentieth Street.

## THE TREATMENT OF PNEUMONIA\*

By  
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Pneumonia is one of the oldest known diseases. It was known to Hippocrates and accurately described by Morgagni, but the causative organisms were not known until they were discovered by Pasteur, Frankel, Sternberg, and Friedlander. It has been called "the friend of the aged," and Osler termed it the "Captain of the men of death." Each year, in spite of the advances that have been made and are still being made in the methods of treatment, pneumonia continues to take enormous toll from all ages and walks of life. The average mortality is from 25 to 35 per cent.

Some wit has said that medicine is "the art or science of amusing a sick man with frivolous speculation about his disorder and temporising ingeniously till nature either

kills or cures him." In the past, we have been prone to look on pneumonia as a self-limiting disease and to relieve the pain and bide our time until the crisis occurs. In pneumonia of children, the conservative management is still probably best, because it has a tendency to be self limiting and less likely to be as severe as in the adult type. We have certain measures for actively combating pneumonia, and there is no more reason for pursuing the watchful waiting policy in its treatment than there is in acute gangrenous appendix or a case of diphtheria.

There is no doubt that certain cases have been lost through the overenthusiastic use of new methods without intelligently selecting the proper procedure for the particular case at hand. Intelligence and conservatism are still necessary in the proper selection of cases suited for particular methods. No single type of treatment is suitable for every case.

Death in pneumonia is caused from several conditions, the most frequent being (a) bacteremia, (b) dehydration, (c) congestive heart failure, and (d) pulmonary edema. To reduce the mortality, we must, of course, direct our attention to combating or preventing these conditions.

Treatment is dealt with under the following headings:

1. General care and symptomatic treatment.
2. Specific and non-specific antisera and vaccines.
3. Oxygen therapy.
4. Artificial pneumothorax.

### GENERAL CARE

Absolute rest is essential for the patient with pneumonia. Unnecessary exertion, moving the patient, too frequent examinations of the back, straining at the stool from purgatives, excessive coughing, and general restlessness uncontrolled may mean the difference between a fatal case and one of favorable outcome. The patient should lie comfortably in bed. This may be accomplished by change in position and the generous use of pillows for support. His strength should be conserved, for, even though it is a comparatively short fight, it is usually a bitter one. The chest should be examined sufficiently often to determine any spread

\*Read at a meeting of the Northeastern Division of the Association, Alexander City, October 1, 1935.

of lesion, evidence of fluid in the pleural sac, and the condition of the heart action. It should be done with as little disturbance to the patient as possible. He should never be allowed to turn himself in bed, and he should get out of bed under no circumstances until his temperature has been normal at least a week. He should be relieved of pain and anxiety. For restlessness, we prefer one of the rapidly destroyed barbiturates. Codeine is useful and preferable to morphine since it is not so likely to increase abdominal distention, which is often a most disturbing problem in these cases. Occasional doses of morphine may be used if necessary, but repeated doses may give rise to anoxemia, due to its depression of the respiration. It may also precipitate the development of pulmonary edema<sup>1</sup>. The giving of atropine does not overcome this danger. It is best to avoid its routine use at any stage in the development of the case<sup>2</sup>.

Visitors should not be allowed, with the possible exception of members of the family, and their visits should be brief and at infrequent intervals. For the sometimes harassing cough, codeine plain or in some unsweetened vehicle, is most valuable, though it should not be given in sufficient quantities to abolish the cough reflex. The various sweet cough syrups may add to the production of gas in the stomach, and nausea.

The room should be well ventilated, fairly cool but without draughts. The bed clothing should be warm but light in weight, as should the nightgown. The gown should be cut in such manner as to facilitate examination of the patient without too much disturbance to him, and to make frequent changing of the gown easy when it becomes wet with perspiration. A tepid sponge bath should be given once a day, no oftener. The room should be warmed for the occasion and the sponging should be followed with an alcohol rub and powder for the added comfort. The mouth must be kept clean with some pleasant tasting cleansing antiseptic mouth wash; liquor antisepticus is

our preference, though Dobell's is used routinely in most hospitals and is effective. This cleansing serves a two-fold purpose in that it keeps down infection and makes the food taste better.

The diet should be one easily digested, leaving little residue, and one that will not increase or produce bowel distention. Cool rather than ice cold liquids have less tendency to produce distention. The food should be palatable; the patient himself may even be allowed to make suggestions. It should contain about two thousand calories per day with fifty grams of protein for the average adult patient.<sup>3</sup> The fluid intake is important; he should take from 3 to 4 quarts per day. Feedings should be small and at frequent intervals. He should be fed by the nurse or some member of the family. Milk, plain or in different combinations, is useful, though in some cases it has a tendency to produce distention. Buttermilk is preferred by some patients and may be used instead. Fruit juices (orange, lemon, lime, grape, and pineapple) are all of value, but the mistake of using too much sweetening causes them to be sickening, and the patient soon tires of them. Lactose and glucose increase the caloric value without producing this excessive sweetness. Tomato juice is refreshing and nourishing; ginger ale is usually well tolerated though carbonated beverages sometimes produce gas in the stomach and should be used with care. Coffee is useful, though it should not be used to excess. Broths, thin soups, with strained vegetables added, and strained cereals may be given. If the patient is not getting sufficient fluids by mouth, they should be given rectally or by the intravenous route, as glucose.

The abdomen should be examined frequently for signs of distention. The bowels should be taken care of but no purgatives should be given. Enemas, with the use of the rectal tube for distention, may be given along with the use of turpentine stupes or poultices to the abdomen if necessary. If it becomes too great, pitressin,  $\frac{1}{2}$  to 1 cc., should be used with the rectal tube left in situ.

The heart should be examined frequent-

1. Bastedo, W. A.: *Materia Medica. Pharmacology, Therapeutics and Prescription Writing for Students and Practitioners*, Philadelphia, W. B. Saunders Co., 1932.

2. Cohen, S. S., and Gitchens, T. S.: *Pharmaco-Therapeutics, Materia Medica and Drug Action*, N. Y., D. Appleton-Century Co., Inc., 1928.

3. McLester, J. S.: *Nutrition and Diet in Health and Disease*, Philadelphia, W. B. Saunders Co., 1927.



ly for signs of failure or decompensation. Many physicians have used and are still using digitalis routinely in pneumonia. Harrison<sup>4</sup> says, "it should not be administered unless there is evidence of preexisting chronic disorder of the heart." In the absence of cardiac decompensation routine digitalization is not only not justifiable but is actually dangerous.<sup>5</sup>

Pulmonary edema should be treated by the intravenous administration of 100 cc. of fifty per cent glucose and followed by 20 units of insulin hypodermatically.

Delirium is sometimes a troublesome thing and usually a bad prognostic sign. It should be controlled by the use of chloral hydrate orally or rectally. If the patient has been accustomed to taking alcohol, it is wise to allow some.

Complications should be watched for, recognized early, and treatment instituted promptly.

Diathermy has gained the spotlight recently, particularly in the lay press, in the production of artificial fever, useful in pneumonia and other febrile diseases. In some instances, artificial crises have been reported as a result of its use. There is no doubt but that it makes an interesting array of apparatus for the benefit of the family, but our observations in its use have not been so gratifying as was hoped. Binger,<sup>6</sup> in his experiments performed at Rockefeller Institute Hospital, says, "there is no evidence that the temperature of the pneumococcic lung can be raised to more than a degree above the systemic temperature, and there is no reason to believe that exudates will melt as the result of diathermy."

#### SPECIFIC AND NONSPECIFIC ANTISERA AND VACCINES

The use of antipneumococcic sera is gaining in favor in the specific treatment of pneumonia. To qualify as a specific treat-

ment, a therapy must terminate bacteremia if it has occurred, prevent its establishment if it has not, or neutralize toxemia. The use of the specific antipneumococci serum has been delayed in its popularity because of its expensiveness and because it involves some laboratory work, which most of us avoid as much as we can if we have no one to do it for us.

Sabin<sup>7</sup> has simplified the means of carrying out the Neufeld reaction for typing directly from the sputum of the patient. The various rabbit sera for typing are available through drug houses. The only equipment necessary is a microscope, slides, cover slips, and alkaline methylene blue stain. We have available for treatment types I, II, and VII which comprise about 65% of all cases of pneumonia. Type I gives the most satisfactory, sometimes very dramatic, results and there is no more reason for withholding its benefits from the patient than there is in failure to use antitoxin in diphtheria. As soon as the type has been determined, the treatment should be instituted as early as possible. The most satisfactory results are obtained only if the treatment is instituted early. Bullowa<sup>8</sup> reported a reduction of 50% in mortality in Type I where treatment was started before the fourth day.

As with other sera prepared from horse serum, we should determine if the patient is sensitive before treatment is given, and there should be a syringe of adrenalin at hand even if the patient is not sensitive to the tests. There have been recent advances in the preparation of antisera that enable us to give a large dose in a more concentrated form and also lessen the likelihood of reaction. Adrenalin or ephedrine with large doses of calcium may be used if serum sickness does arise. The initial dose should be 10,000 units repeated at four hour intervals. A gradual decline in temperature is evidence of a satisfactory reaction, and the treatment should be continued until the temperature reaches normal. As a rule from 100,000 to 200,000 units are required for treatment.

4. Harrison, T. R.: *Failure of the Circulation*, Baltimore, Williams & Wilkins Co., 1935.

5. Cohn, A. E., and Lewis, W. H., Jr.: *Lobar Pneumonia and Digitalis*, *Am. J. M. Sc.* 189: 457 (April) 1935.

Wyckoff, J.; DuBois, E. F., and Woodruff, I. O.: *Therapeutic Value of Digitalis in Pneumonia*, *J. A. M. A.* 95: 1243 (Oct. 25) 1930.

6. Mock, H. E.; Pemberton, Ralph, and Coulter, J. S., Eds.: *Principles and Practice of Physical Therapy*, Hagerstown, W. F. Prior Co., Inc., 1934.

7. Sabin, A. B.: *Immediate Pneumococcus Typing Directly from Sputum by Neufeld Reaction*, *J. A. M. A.* 100: 1584 (May 20) 1933.

8. Bullowa, J. G. M.: *Studies in Serum Treatment of Pneumonia*, *New York State J. Med.* 33: 13 (Jan. 1) 1933.

In those types for which there is no specific antiserum the mixed vaccines containing pneumococci, streptococci, and influenza bacilli give satisfactory results. They seem to lessen the possibility of the patient being overwhelmed by the toxins and bring the temperature down. The nonspecific proteins have been used in some cases with good results.

#### OXYGEN THERAPY

In practically all cases of pneumonia we find cyanosis occurring at some time during the course of the disease. This condition is indicative of an insufficient supply of oxygen in the blood and is manifested by blueness of varying degree at the base of the nails and the lips. Shallow and rapid breathing, and decreased aerating surface due to the pneumonia process may contribute to its occurrence. As to the effects it has on the pneumonia, we are uncertain. It no doubt contributes to the toxicity, fatigability, and certain effects on the heart muscle causing changes in cardiac rate. This has been proved by the administration of oxygen in which the delirium is diminished or disappears entirely, cyanosis is relieved, and there is a notable reduction in the pulse and respiratory rate. The degree of cyanosis is an accurate index of the prognosis. The indication for the administration of oxygen is the appearance of cyanosis, dyspnea, delirium, pulse rate of 120 or more, and respiratory rate of 36. It may be administered by the nasal catheter or oxygen tent. The use of the funnel over the face is unsatisfactory, as it interferes with the discharge of  $\text{CO}_2$  and moisture. The tent is the most satisfactory because it is more comfortable and allows us to know and control the amount of oxygen supplied. There is only a slight difference in the concentration of oxygen in the alveolar air and the tent. There should be a flow of 6 to 8 liters of oxygen per minute which will maintain a concentration of approximately 50% oxygen in most tents. A higher concentration may be used for a short length of time but should not be continued for long. With the large tents it is possible to withdraw carbon dioxide from the circulating air with soda lime. It is best to leave some  $\text{CO}_2$  in the tent. The nasal catheter can be used

very satisfactorily<sup>9</sup> and fairly comfortably to the patient. The catheter is inserted into the nostril to about the level of the uvula and strapped in position with adhesive. The nostril should be sprayed every two hours with liquid petrolatum and the catheter should be changed from one nostril to the other every 12 hours. We usually use a mixture of  $\text{CO}_2$  and  $\text{O}_2$  which is put up commercially with 7%  $\text{CO}_2$  added to the oxygen. A flow of 10 to 12 liters per minute will maintain a concentration of 50% oxygen. The oxygen administration should in no way interfere with other methods of treatment which may be carried on at the same time. It must be remembered that while oxygen is not as explosive as some of the other gases, it should not be used in the room with an open fire, a grate, gas heater, oil lamps, or candles, and the family should be so warned of this.

#### ARTIFICIAL PNEUMOTHORAX

The use of artificial pneumothorax in the treatment of lobar pneumonia is a fairly recent development. In 1921 Friedman reported its use in seven cases and since that time several others, both in this country and abroad, have used it with encouraging results.<sup>10</sup> At the last meeting of the American College of Physicians, Leopold and Lieberman of Philadelphia reviewed 197 cases that had been treated in this country with artificial pneumothorax. The treatment in most cases resulted in almost immediate relief of pain and fever with the production of an artificial crisis. There was a mortality rate of 29.4 per cent as compared with the general hospital mortality of 25 to 30 per cent, so apparently it has very little influence on mortality rate. It is only effective when used within the first three days of the disease. It has no effect on existing bacteremia, but may prevent invasion of the blood stream when used early. In the presence of recent or preexisting adhesions of the pleura, compression therapy is of course futile. It should not be used in children for, as has been stated, they do well under

9. Barker, M. H.: Parker, D. M., and Wassell, G.: Nasal Catheter Administration of Oxygen, With Observations on Alveolar Saturation, *J. A. M. A.* 103: 244 (July 28) 1934.

10. Myers, J. A.: Artificial Pneumothorax, *J. A. M. A.* 103: 1299 (Oct. 27) 1934.



conservative treatment, neither is it wise to attempt it in the aged as we are more likely to encounter old adhesions. It obviously cannot be used where there is bilateral involvement. In the cases mentioned above there was no evidence that it increased the likelihood of empyema. Stengel says: "If the mortality from pneumonia were in no degree lowered by pneumothorax, the prompt improvement and the speedy termination of the disease by its use would still constitute a decided advance in treatment." This treatment should, of course, be administered by one familiar with the technique.

#### CONCLUSIONS

1. Rest is the most important agent in any type of treatment of pneumonia, and every effort should be made to secure it for the patient.
2. The patient should receive an abundance of fluids.
3. Symptoms of complicating condition should be treated as they arise.
4. There is no excuse for failure to use specific antiserum if available for the type particularly in Type I pneumonia. Nonspecific antisera should be used in the absence of a type specific serum.
5. Oxygen therapy may be a life saving measure in the event of failing heart or respiration.
6. Artificial pneumothorax should be confined to early adult unilateral lobar pneumonia.
7. There will be a notable reduction in mortality from pneumonia when the physicians of this country employ efficiently the newer methods of treatment, especially serum and oxygen.

802 Wilson building.

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**Radium Therapy**—For several years now radium has been regarded as the agent of choice in the treatment of carcinoma of the cervix uteri. We now know that with the improvements in our x-ray therapy, the results are infinitely better if pelvic irradiation with x-ray precedes the direct and local application of radium. More recently it has been found that intensive irradiation therapy rivals, if in fact it does not replace, operative surgery in dealing with many cases of carcinoma of the fundus uteri.—*Quick, N. Y. State J. Med., February 15, 1936.*

## ALABAMA'S EIGHTY-NINE YEARS OF MEDICAL ORGANIZATION

### A BRIEF HISTORY OF THE ASSOCIATION\*

By

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"It is almost a quarter of a century," said Dr. George A. Ketchum of Mobile, addressing the Association in annual session, Montgomery, March 15, 1870, "since the first convention of medical men of this State assembled in the City of Mobile, and laid the corner-stone of what has since become 'The Medical Association of the State of Alabama.' The Selma Medical Society was the first to urge upon the profession the need for medical organization. Mobile not only promptly responded, but cordially invited the physicians of the State to meet in convention in Mobile. The invitation was accepted, and the first meeting was held in that city in 1847.

"How well," continued Dr. Ketchum. "do I remember the feelings with which I regarded that assemblage of the physicians of the State! I was young then in the profession of medicine, but already my heart was in my vocation. As I saw those gifted members of the profession, leaving their homes, their firesides, and their personal interests, sacrificing their time willingly and cheerfully, in the pursuit of measures to elevate their science, and counselling together for means to interpose between suffering humanity and the ills that threaten it, a new estimate of the profession was formed in my mind, new aspirations and promptings filled my soul, and with a heart swelling with honest pride, I renewed my oath of allegiance and devotion to its high behests and purposes."

Thus was recorded something of that historic occasion one might well dwell upon; but, first, let the clock of the years be turned back further still for an insight into events antedating the organization of the Association.

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\*To be published in three parts. The second installment will appear in the April issue.

\*With one exception, references used have been the acts of Alabama and publications of the Association. The exception is indicated by suitable footnote.

## THE FIRST MEDICAL PRACTICE ACT

Alabama was admitted to the Union on December 14, 1819. At the fifth annual session of the General Assembly, "begun and held in the Town of Cahawba" on the third Monday in November 1823, Alabama's first Medical Practice Act was adopted, and approved on December 22nd by Governor Israel Pickens. Among other things it provided:

1. That from and after the first day of April next, no person shall be allowed to practice physic or surgery, or any other branches thereof, or in any case to prescribe for the cure of diseases for fee or reward, unless he shall have first been licensed to do so, in the manner prescribed.
2. That all bonds, notes, promises and assumptions made to any person not licensed, the consideration of which shall be for services rendered as a physician or surgeon, in prescribing for the cure of diseases, shall be utterly void and of no effect.
3. That there shall be established five boards of physicians: one at Huntsville; one at the City of Mobile; one at Tuscaloosa; one at Cahawba; and one at Claiborne, to consist of three members each, to be elected by joint vote of both houses of the General Assembly; which boards shall meet annually for the purpose of examining all applicants for a license to practice medicine.
4. That the said boards shall be entitled to receive and demand of every applicant the sum of five dollars for each and every examination; and the sum of five dollars for every license.
5. That the money arising from the examinations shall be applied to the purchase of a medical library for the use of the medical boards, respectively, and their successors in office.

The General Assembly in 1832 amended the act as to exclude from the operation of the law any person "practising medicine on the botanical system of Doctor Samuel Thompson: provided, that if said person . . . shall bleed, apply a blister of Spanish flies, administer calomel . . . opium or laudanum, he shall be liable to the penalties of the act."

In the period 1835-1870, additional examining boards were established at Montgomery and Demopolis (1835), Livingston (1836), Irwinton [Eufaula] (1837), Florence and Jacksonville, in the County of Benton [Calhoun] (1841), Chambers County (1844) and Baldwin, Clarke, Monroe and Washington Counties

at Suggsville (1845). In the same year a board was authorized for the Town of Talladega, with Dr. Benton W. Groce a member. A board for Crawford (Russell County) was established in 1846, Tuskegee (1852); Cherokee, Choctaw, Jackson and Russell Counties (1854), Autauga, Dale, Greene, Henry, Perry, Pickens, Pike\* and Shelby Counties between 1855 and 1858; Coffee, Coosa and Franklin Counties in 1860; St. Clair (1861); Elmore, Hale, Jefferson and Marshall Counties (1867), Lee County in 1868 and Lawrence in 1870.

In 1861 the General Assembly granted to governing bodies of counties the right to establish medical boards "where no boards exist."

## DENTISTS INCLUDED IN THE ACT

By an act of the Legislature of 1841, approved December 31st, it was made the duty of medical boards to examine and license applicants to practice dental surgery. "It shall be the duty of each of the medical boards," said the act, also, "where the same is practicable, to add to their body, by election, a professional dentist having the requisite qualifications." It was not until 1881 that a Board of Dental Examiners was created as an entity separate and apart from medical examining boards.

## EARLY MEDICAL SOCIETIES

## MEDICAL SOCIETY OF SOUTH ALABAMA

The Medical Society of South Alabama was declared, on January 30, 1839, to be "a body corporate" and constituted the Medical Board at Selma. Two years later the powers and privileges of this board were "transferred to and vested in" the Alabama Medical Society, provided for in act approved April 28, 1841. The act set forth, in part, that the Alabama Medical Society is "a body corporate and politic, by the name and style of the Alabama Medical Society, and under this name shall have perpetual succession of officers, sue and be sued, plead and be impleaded, and have a common seal with power to change or alter the same at pleasure." Power was given to adopt a constitution and by-laws; and

\*It is of interest to note that the General Assembly of 1867 decreed that Wilson McLemore of Pike County was authorized to charge and collect by law all proper charges and fees for curing cancers, all laws now of force to the contrary notwithstanding.



"to hold by purchase, gift, grant, or otherwise, property, real, personal and mixed, not exceeding in value \$60,000.00 . . . The members of this Society shall be known and styled, Fellows of the Alabama Medical Society."

THE SELMA MEDICAL SOCIETY It is the author's opinion that though the Alabama Medical Society was intended to be a statewide organization, it was, in reality, the Selma Medical Society. Indeed, it was so known after January 28, 1867 because of legislation entitled, "Charter of Alabama Medical Society Revived." Said the Legislature: "The charter of the Alabama Medical Society shall not be deemed and held forfeited on account of any failure on the part of said Society to do and perform such acts as may have been required of them by the charter under which they are made a body corporate . . . All powers and privileges are revived and affirmed . . . and the name changed to the Selma Medical Society."

MOBILE MEDICAL SOCIETY On December 21, 1841, Drs. Solomon Mordecai, John H. Woodcock, Henry S. Levert, Josiah C. Nott, and their associates and successors, of the Mobile Medical Society were granted articles of incorporation and authorized to adopt a constitution and by-laws, and to appoint annually five members to examine all applicants for license to practice medicine in the County of Mobile. "Said Society shall be required to carry into effect such ordinances as the corporation of the City of Mobile may adopt in regard to it . . . to organize a Board of Health and procure necessary information and advice upon the subject of the health of the city."

The Society was incorporated a second time on February 23, 1866, Drs. George A. Ketchum and Josiah C. Nott being named among the corporators.

THE SOCIETY IN MONTGOMERY The Sydenham Medical Society of Montgomery was incorporated by Act of the Legislature approved February 1, 1850, Drs. William M. Bolling, B. Rush Jones, Henry M. Jackson, William O. Baldwin, Matthew Bozeman\* and J.

Marion Sims being those referred to in the enabling legislation. "Any licensed physician shall be entitled to admission" to the Society "unless three or more members object."

The Society was incorporated again on February 8, 1866 as the Medical and Surgical Society of Montgomery. Drs. W. O. Baldwin, J. F. Johnston, T. R. Hill and R. F. Michel, the corporators, were authorized to examine applicants seeking certificates of qualification to practice medicine, and to organize a board of health.

#### MEDICAL COLLEGES AUTHORIZED

AT WETUMPKA By an act of the Legislature of 1845, James M. Hill, John A. Reynolds, Warren S. Williams, et al, were named trustees of the Alabama Medical University and authorized to establish a medical college in the Town of Wetumpka. Two full courses of lectures were to be given; or a student might engage in one full course in said college and one in "some respectable medical college," whereupon the degree of Doctor of Medicine was to be conferred if the student had spent the usual time in private instruction required by other medical institutions.

The succeeding Legislature granted the Board of Trustees authority to establish said university either at Wetumpka or "any other city, town or village in the State of Alabama as the interest of medical and surgical science may demand."

AT MONTGOMERY Legislation incorporating a medical college of the State of Alabama at Montgomery was approved December 20, 1849. "A board of trustees and professors . . . are hereby established and declared a body corporate under the style and title of 'The President, Trustees and Faculty of the Medical College of Alabama at Montgomery' . . . The said board shall consist of eleven members, viz: Francis Bugbee, Chas. T. Pollard, E. Y. Fair, Robert J. Ware, Silas Ames, A. B. McWhorter, H. W. Henry, Samuel D. Holt, James Berney, John McLester, and William H. Reeves, who shall elect a president from among themselves."

It is not known to the writer that either of the above colleges ever functioned; nor that incorporated February 20, 1866 as the

\*The writer wonders if this was not intended for Dr. Nathan Bozeman, who established his residence in Montgomery in 1849 and manifested great interest in the Association for several years prior to his removal to New York.

Southern Medical College at Greenville; nor the Alabama College of Physicians and Surgeons, and the Charity Hospital at Montgomery provided for in legislation approved January 31, 1866.

AT  
GRAFFENBERG Dr. P. M. Shepard, the great grandfather of Mrs. James L. Jordan, of Huntsville, President in 1935-36 of the Woman's Auxiliary to the Association, owned and operated the Graffenberg Medical Institute of Alabama, near Dadeville, in Tallapoosa County. He, Drs. James T. Shackelford, Wm. M. A. Mitchell and J. T. Banks were constituted a Board of Trustees by the General Assembly of 1852, and empowered to grant diplomas, confer degrees and licenses upon all persons, who, on examination, should be found proficient in all branches of medical sciences as taught in that day. It is recorded that cadavers, for instruction in anatomy, were procured from New Orleans, shipped in syrup barrels.

AT  
MOBILE The Legislature of 1856 on January 24th passed over the Governor's veto an act establishing the Alabama Medical College at Mobile. It was organized in 1859 and incorporated January 30, 1860 as a department of the University of Alabama. "Classes were graduated in 1861 and subsequent years, excepting 1862-68. It was reorganized in 1897 as the Medical Department of the University of Alabama. The present title (The School of Medicine of the University of Alabama) was assumed in 1907, when all property was transferred to the University of Alabama. In 1920 clinical teaching was suspended and the school removed to the campus in Tuscaloosa"\* where it is in operation now.

AT  
BIRMINGHAM "The Birmingham Medical College, at one time affiliated with the State University, was organized in 1894, graduated its first class in 1895"\* and ceased to operate in 1915.

#### THE ASSOCIATION IN THE FIFTIES

Of the meeting for organization in 1847 (referred to in the opening paragraph) there are no minutes available; nor does it appear that records were preserved of the

sessions of 1848 and 1849. When Dr. Ketchum, in 1851, said, "we have given a volume of transactions to the world that we may be justly proud of as a first attempt and as a prestige of what we may do in the future," he undoubtedly referred to the proceedings of 1850, though even this volume is not in the archives of the Association. However, from 1851 to date the printed record of achievement is unbroken.

Dr. Ketchum, in addressing the session of 1851, meeting in the Supreme Court Room of the Capitol in Montgomery, December 8-11, said: "What sources of congratulation have we, as members of the Alabama State Medical Association?\*" We have drawn to the close of its fifth annual session; we watched with care its earliest organization, and nursed it through the trying season of its infancy. It has now become a chartered and incorporated body, exerting a decided influence on the profession throughout the State. It has openly avowed its claims to consideration and importance in the legislative halls, and its appeal is too manly, too heavily laden with the best interests of all to be passed by unheeded in that deliberative body . . . Embarking as we did when we were beset by difficulties, we have guided our ship through the most perilous and intricate passage of its career, and we may now reflect with pride upon its secure position . . . We see the kindling enthusiasm, the increasing interest which begins to beautify the medical horizon as a bow of promise for the future. We see the counties of our State organizing their medical societies and combining in something like united action in advancing the standard of our noble art. . . . We see the communities in which we live watching with eager interest these organizations of medical men, and they have cause to congratulate themselves that the men into whose hands they expect to commit their lives are earnest in their endeavors to attain professional excellence, and daily giving evidence that they have a higher claim to their esteem and confidence than the impudent advertising quack who fills the public papers with the proof of his char-

\*Quoted from the Bulletin of the School of Medicine of the University of Alabama, 1935.

\*It will be noted, in a subsequent paragraph, that the legal name of the Association is "The Medical Association of the State of Alabama."



latanism and the grave with the victims of his ignorance."

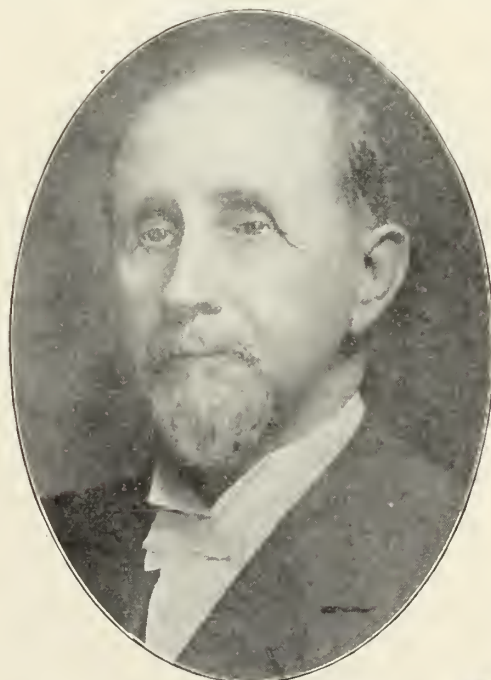
THE ASSOCIATION INCORPORATED It was on February 13, 1850 that The Medical Association of the State of Alabama became a chartered body. "Be it enacted by the Senate and House of Representatives in General Assembly assembled," said the in-

1851 that the matter was likely to receive action in the General Assembly then in session. The hospital was actually authorized February 6, 1852; and on July 6, 1860 Dr. Peter Bryce became its first superintendent and served for a period of thirty-two years.

Selma was host to the Association in 1852. Dr. Jno. P. Barnes reporting for Mobile County on the number and character of practitioners of medicine in that political subdivision listed regular practitioners 40; homeopathists and hydropathists 2; root doctors and Thompsonians 3; general



JEROME COCHRAN  
State Health Officer  
1879-1896



WILLIAM HENRY SANDERS  
President  
1890-1891  
State Health Officer  
1896-1917

corporating act, "that A. Lopez, J. Marion Sims, N. L. Meredith, Thos. W. Mason, J. A. English, T. A. Bates, W. B. Johnson and H. M. Jackson, and their associates and successors of The Medical Association of the State of Alabama are hereby instituted a body corporate under the name and style of 'The Medical Association of the State of Alabama'; . . . that said Association is empowered to adopt a constitution and pass such by-laws as may be deemed necessary for its good government . . . ; that the members . . . shall be known and styled 'Fellows of The Medical Association of the State of Alabama.'"

The Association early interested itself in the establishment of an asylum for the insane of the State, Dr. A. Lopez, Chairman of the Committee delegated to memorialize the Legislature on the subject, reporting in

quackery 3; idio-eclectopathists one—a total of 52. In thus citing the situation Dr. Barnes added that "the Association will perceive what a deplorable state of things prevail in our city . . . ; and it is the more unfortunate for scientific men that they (irregulars) can, with their numerous pretensions, secure the confidence and slay a multitude of the inhabitants, all of which is laid at the door of the 'regular practitioners.' It is to be wished, and most devoutly too, that our professional brethren will exert themselves to alleviate our condition in this respect; if not by memorializing the

Legislature (which we have found to be ineffectual) . . . by maintaining that respect . . . which will at once forbid the advance of charlatanry and empiricism among us . . . " History reveals it was twenty-two years later that the State's lawgiving body took cognizance of the situation and instituted steps to correct it.

Meeting scheduled for the second Monday in December 1853, at Montgomery, did not convene until January 10, 1854. Annual oration was delivered by Dr. Lopez, who selected the theme, "The Mutual Relations that Should Exist Between the Representatives of a Commonwealth and its Medical Men." "I come, then," said the speaker, "to join in bonds of holy wedlock the sciences of medicine and legislation. The people's safety is the highest law . . . I seek to bring together the people and their lawgivers, through the mediation of those to whose special guidance so great a share of that safety is confided. I desire to unite to the labors of medical men, devoted to the physical preservation of the State, the earnest and effective cooperation of the people's agents, in order that the State may reap the benefit of her subjects, under the endowment and possession of powers suited to confer labor, productiveness and protection, as reciprocal influences between two parties so essentially dependent one upon the other." This, it seems to the writer, was a winged shaft Dr. Lopez hoped would find its mark. We who have been privileged to watch its course through time believe it did in fullest measure, as subsequent events to be related bear witness.

The Association returned to Mobile for its 1855 session which proved to be the last until 1868. The following resolution was adopted:

*Resolved*, That Dr. J. Marion Sims, of New York, formerly a Fellow of this Association, and now an Honorary Member, be requested to communicate, for publication in our transactions, an account of his improved operation and apparatus for the cure of vesico-vaginal fistula, rupture of the perineum, etc., together with such other surgical operations as he may find convenient."

Fellows of the Association numbered 149 at this time, and included Drs. W. O. Baldwin and N. Bozeman of Montgomery; A. Denny of Suggsville, W. P. Reese of Selma; and E. P. Gaines, J. F. Heutis, G. A. Ketchum, A. Lopez and F. A. Ross, Mobile.

#### THE ASSOCIATION IS REVIVED

For reasons that are apparent to the reader, the Association lay dormant after the session of 1855 until the reorganization of 1868. In that year "pursuant to a call issued by the Selma Medical Society during the latter part of 1867, delegates from the Selma Medical Society, the Greensboro Medical Society, the Montgomery Medical and Surgical Society, and the Mobile Medical Society, together with other medical gentlemen from various parts of the State, met in the City of Selma, at 3 o'clock P. M., on the 3rd day of March 1868, for the purpose of reorganizing The Medical Association of the State of Alabama.

"On motion of Dr. W. P. Reese, of Selma, a temporary organization was effected by calling to the chair Dr. F. A. Ross, of Mobile, and to the Secretary's table, Dr. Jerome Cochran, of the same place.

"It was found that the lapse of time since the last meeting of the Association, and the intervention of the war, had sadly thinned the ranks of its members, there being only six of them present, namely: Dr. W. P. Reese, Dr. H. Backus, Dr. F. A. Ross, Dr. C. J. Clark, Dr. A. J. Reese, and Dr. A. G. Mabry. Of gentlemen not before on the Roll of Members, there were present, Drs. Ben H. Riggs, Charles F. Force, John A. McKinnon, and L. E. Locke, of Selma; Drs. Thomas C. Osborn, F. M. Peterson, and J. Huggins of Greensboro; Drs. R. F. Michel, W. C. Jackson, and H. S. Howard, of Montgomery; Drs. J. T. Gilmore and Jerome Cochran, of Mobile; Dr. E. D. McDaniel, of Wilcox; and Dr. G. W. Keyser of Richmond."

Dr. Mabry offered the following resolution:

*Resolved*, That we, the members of The Medical Association of the State of Alabama, here assembled, do revive and reestablish said Association, and invite the physicians present who are not members to join us in so doing and to become members of the Association.

Regular officers were elected: President, Dr. A. G. Mabry, Selma; First Vice-President, Dr. R. F. Michel, Montgomery; Second Vice-President, Dr. F. A. Ross, Mobile; Third Vice-President, Dr. T. C. Osborn, Greensboro; First Recording Secretary, Dr. Jerome Cochran, Mobile; Second Recording Secretary, Dr. Ben H. Riggs, Selma;



Corresponding Secretary, Dr. J. T. Gilmore, Mobile; Treasurer, Dr. W. C. Jackson, Montgomery.

"On motion of Dr. Mabry (Dr. Michel in the chair), Dr. J. C. Nott, of New York, late of Mobile, was elected an honorary member of the Association by acclamation, as a recognition of his distinguished services in behalf of medicine and general science."

ture annual meetings of our Association, and that other portions of the State, not now represented in the State Association, animated by their zeal, may be led to emulate their good example, and unite with us for the advancement of medicine.

Cognizance was taken, also, of the honor "conferred upon the South, and particularly the State of Alabama, by the American Medical Association, at its late session (1868) in Washington City, in the selection, as its presiding officer, of Dr. Wm. O. Baldwin, of Montgomery, Ala."

It is fitting that there be given here the



BENJAMIN JAMES BALDWIN  
President  
1891-1892

When the meeting of 1869 was called to order in Mobile at noon on March 2nd, delegates were present from the Autauga, Greensboro, Mobile, Monroe, Montgomery, Selma, Tuscaloosa and Wilcox Medical Societies, and from the Medical Association of North Alabama. So impressed was Dr. W. A. Cochrane of Tuscaloosa that he asked for the adoption of appropriate resolution:

1. *Resolved*, That we hail with pleasure our professional friends from North Alabama, who have put themselves to so much trouble and inconvenience in travelling so far to represent the interests of medical science.
2. *Resolved*, That we accept their presence here at this time as the harbinger of more intimate union of personal friendship and professional interests between the northern and southern portions of the State.
3. *Resolved*, That we hope to have the pleasure of meeting these gentlemen again in fu-



LUTHER LEONIDAS HILL  
President  
1897-1898

names of all those distinguished Alabamians, by birth or adoption, who have occupied the presidency of the American Medical Association, and the year each served.

Dr. William O. Baldwin.....	1869
Dr. J. Marion Sims.....	1876
Dr. John A. Wyeth.....	1902
Dr. Wm. C. Gorgas.....	1909
Dr. James S. McLester.....	1935*

Of each much has been written, to which, certainly, this author could not add. It is desired only to revert now to the meeting of 1869 and President Mabry's address to

\*Concluding with the 1936 session of the American Medical Association.

quote his appraisal of Dr. Sims. "To Dr. Sims, a member of our Association, the profession is more indebted than to any one else for the degree of perfection to which uterine surgery has attained. The Doctor's experiments and suggestions were made whilst he was a resident of Montgomery, and so ingenious did I regard them at the time and so well adapted to the objects and ends in view, that I have doubted whether they have since been improved upon."

#### THE ASSOCIATION IN THE SEVENTIES

In 1870 the Association met in Montgomery, March 15-17, with Dr. R. F. Michel as its President. An interesting discussion was had on malaria, particularly of the hemorrhagic type. Dr. W. P. Reese said he was not satisfied with the name hemorrhagic malarial fever, and preferred to call the disease malignant jaundice . . . but if the name hemorrhagic malarial fever was adopted, he claimed for Selma priority in the use of it.

It was in this year of its history that the Association issued an address through the newspapers to the planters and landowners of the State urging the necessity of a thorough system of drainage for the purpose of diminishing the prevalence of malaria. "All doctors agree," stated the address, in part, "notwithstanding their different theories as to what the poison is, that you must have three conditions acting in conjunction to produce malarial fevers, viz: heat, moisture, and decaying vegetable matter. Now it is evident that we cannot get rid of heat; but it is equally evident that we can control, in a great measure, the other two elements necessary to the production of malarial poison.

"By a proper system of drainage we can get rid, in a great measure, of the superabundant moisture, and with a little labor judiciously directed, the superabundant vegetable matter can be destroyed previous to its natural death."

The address was signed by J. S. Weatherly, M.D., Chairman; R. F. Michel, M.D., and J. B. Gaston, M.D.

It was at the meeting of 1870, also, that Dr. Geo. A. Ketchum turned time backward to refer to the birth of the Association in 1847. "Of all that glorious band of pio-

neers in medical progress in Alabama which assembled at that and at subsequent meetings of the Association how few there are who will take part in our deliberations at this annual reunion! Here, and there, I recognize a face and a name that were familiar in those earlier meetings, but, alas, how many faces are missing, how many names are erased forever from the roll; even the old building in which was held the meeting of organization has passed away and on its site now stands the Battle House. How many who gave dignity to those earlier meetings, and who were so earnest in their devotion to the business and interest of the organization, have passed away forever. But the names of Bolling, of Ames, of Lewis, of L. H. Anderson, of Wooten and others are inseparably connected with the medical literature of the State. And the names of Fearn, of Echols, of Crawford, of English, of Denny, of Levert, of Mordecai, of Cabell, of Ulmer, of Lavender and of many others have been transferred from the roll of the Association to the roll of fame, and, adorning the annals of the past, they should be treasured as the bright examples of the future."

"The Association," continued Dr. Ketchum in his oration, "has given many names to adorn the current medical literature of the country. It has given a Baldwin to the National Medical Association as its presiding officer. It has given a Sims, a Boze-man, and a Nott to carry the fame and glory of American medicine and surgery into the proud capitals of Europe, and to adorn the ranks of the profession in the commercial and financial metropolis of the United States."

In 1871 and '72 there was being conceived in the brain of Dr. Jerome Cochran another notable contribution on the part of the profession of Alabama to medical organization the world over.

DR. COCHRAN'S VISION "I would have a general health law passed by the Legislature of the State, carefully prepared, so as not to stand in need of frequent revision or amendment," Dr. Cochran apprised the Association at its Huntsville session, March 26-28, 1872.

"I would have this law to invest the Medical Association of the State with the functions, powers and responsibilities of a



State Board of Health, and these functions I would have exercised through such organs as the Association, in its wisdom, might think best.

"I would have the same act of the Legislature to invest each County Medical Society with the functions of a County Board of Health, said functions to be exercised through such organs as the said county so-

"Until it suited the purposes of the local authorities of any county to cooperate with the Board of Censors of the County Medical Society, by the appropriation of means and powers for the practical application of sanitary science, the health functions of such Board of Censors would be largely nominal . . ."

How prophetic Dr. Cochran's next assertion proved to be! "But whenever, in the judgment of the county or municipal authorities, circumstances should justify some direct practical attempts towards an improved sanitary condition, the machinery



GLENN ANDREWS  
President  
1902-1903

cieties should, in their wisdom, determine to be best.

"If my plan for the organization of the profession of the State should be adopted," continued Dr. Cochran, "as I firmly believe that it will, because I have confidence in the sound judgment and sober second thought of the profession, then I would have the Board of Censors," explained in a subsequent paragraph, "of the State Association to have special supervision of the sanitary interests of the State, and the Boards of Censors of the several county societies to have sanitary jurisdiction of their several counties; and I would have the county medical organizations to be subordinate in this function, as in all others, to the authority of the State Association, and all to act together toward the accomplishment of a common purpose.



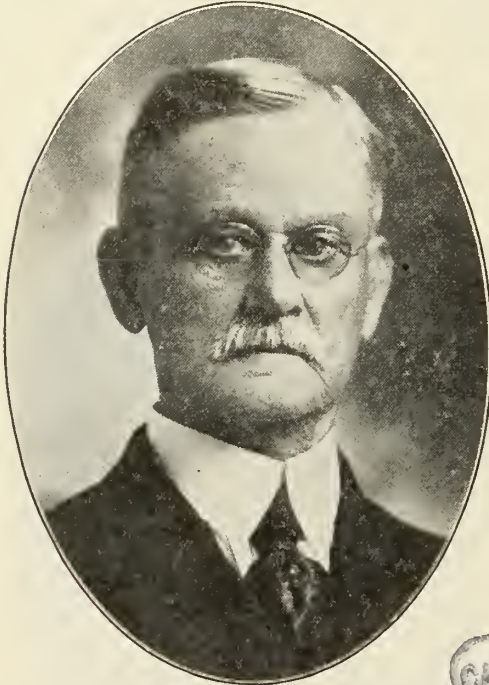
MATTHEW BUNYAN CAMERON  
President  
1903-1904

would be ready, and could be put into working order at once." What feeling of satisfaction he would experience could he see the structure erected on the foundation he laid!

A far step toward the attainment of the goal visualized by Dr. Cochran manifested itself when the Association, meeting in Tuscaloosa, March 25-27, adopted the Constitution of 1873. Its provisions included a State Board of Censors, composed of five members of the Association to discharge, among other functions, those attendant upon the examination of all persons proposing to practice medi-

CONSTITUTION  
OF 1873 ADOPTED

cine in the State of Alabama; and a Board of Censors for each County Medical Society, which, also, was vested with the right to "examine carefully" every person, proposing thereafter to commence the practice of medicine in their respective counties; only those already granted certificates of qualification by the State Board of Censors being excepted.



CAPERS CAPEHART JONES  
President  
1904-1905

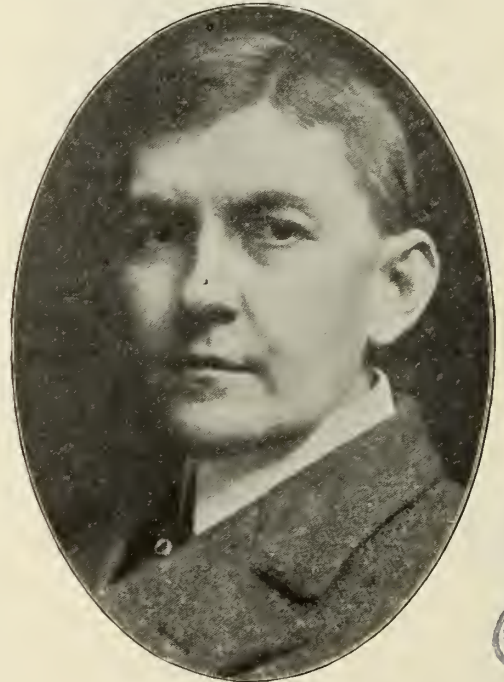
**BOARD OF CENSORS  
ELECTED**

The Constitution adopted, the following were chosen members of the Board of Censors: Dr. Jerome Cochran, of Mobile, for five years; Dr. Jas. Guild, Sr., of Tuscaloosa, for four years; Dr. A. G. Mabry, of Selma, for three years; Dr. R. F. Michel, of Montgomery, for two years; and Dr. George E. Kumpke, of Leighton, for one year.

**FIRST REPORT  
OF THE BOARD**

The session of 1874, Selma, April 13-15, witnessed the presentation of the first annual report of the State Board of Censors. Said the report: "We have just adopted a new constitution. Many of its provisions seem strange to many. Whether it has been in all things wisely planned or not, time will show. For the present, both good faith and good policy demand that we shall all give it an earnest and loyal support. Other plans of organization have been tried for

many years together, and certainly with no result of which we have any reason to be proud. The friends of this new plan believe that it will lead us through the wilderness of despair in which we have journeyed so long into the promised land of professional regeneration, which all of us have looked forward to with unsatisfied yearning. If it fails, it adds only one more to the sum of failures we have already to lament. If it succeeds, no monument of marble in our public places—no monuments of affection in our hearts—can ever adequately express



EUGENE DuBOISE BONDURANT  
President  
1905-1906

our obligations to those who have originated and carried it into execution."

"But, alas! one seat is vacant." Dr. A. G. Mabry, President of the Association in the year of reorganization and the succeeding year died on the 23rd of February 1874, of pneumonia. "The medical history of Alabama . . . would be incomplete," said Dr. George A. Ketchum, "did not the name of A. G. Mabry adorn its brightest page. His brain conceived this organization; he was present at its birth; he stood sponsor for it in its helpless infancy; and now, when, in its approaching maturity, he dies, he bequeathes to it the honors inseparably connected with his example and his name."

*(To be continued)*



## Committee Contributions

### COMMITTEE ON PREVENTION OF CANCER

Activities of women's organizations in other parts of the United States have reached Alabama. The women of Alabama are being organized to fight cancer. Your Committee on Prevention of Cancer is in position to guide and direct them. The failure of the medical profession to participate in this movement, in one state, resulted in chiropractors and osteopaths taking up the work with the women. There are chiropractors and osteopaths among the membership of the women's organizations who are not only willing but anxious to carry on in cancer control. Unorganized medicine is also anxious to enter this work.

Your State Committee on Prevention of Cancer has the facilities and backing to keep this movement under the guidance of The Medical Association of the State of Alabama. But, this is dependent upon the cooperation of County Medical Societies. The State committee cannot hope to carry on in this work alone. The responsibility for what happens in cancer control in each county rests with the individual County Medical Society.

It is therefore urgent that each County Medical Society appoint a committee on prevention of cancer to work with the State committee. The county committee will be the only medium through which lay groups may function in this work. Requests for speakers and materials made to the State committee by lay groups will be referred to the county committee for compliance. The State committee is ready to furnish county committees with film strips, projectors and other materials to advance knowledge concerning the control of cancer.

Further, individual members of the Association must assume responsibility for the education and proper examination of their patients. In this connection, the experience of the women of one of the larger cities in the State of New York is worth mentioning. The women of this city had learned, through cancer control propaganda, the value of periodic physical examinations, particularly of the breast and pelvic organs. When they presented themselves to their family physicians for this examination, it

was so cursory as to arouse their indignation and was made the topic of discussion at an open meeting. As a result, a committee was appointed who approached a physician who was known to be interested in cancer control, with the request that he make the examination for the group. These women had been told of the dangers of a lump in the breast, and of untreated lacerations and infections of the cervix. They had learned that early cancer is curable. They had learned that cancer is likely to follow chronic inflammation. They applied to their family physician to make certain that they were not candidates for cancer. They naturally felt cheated when an adequate examination was withheld.

Every physician is therefore urged to make an adequate examination. All physicians should be acquainted with the film strip, "Fight Cancer With Knowledge." This is to be shown to women's organizations and other lay organizations and is available to all County Medical Societies through the State Committee on Prevention of Cancer. This committee also has film strips on "Cancer of the Breast" and "Cancer of the Uterus," which will be furnished upon request.

Please send the personnel of your County Committee on Prevention of Cancer to The Chairman, Committee on Prevention of Cancer, 210 Medical Arts Building, Birmingham, Ala.

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### ANNUAL MEETING ALABAMA PEDIATRIC SOCIETY

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Attention is directed to the annual meeting of the Alabama Pediatric Society, scheduled for 1:00 P. M., April 20th, at the Jefferson Davis Hotel, Montgomery. All doctors of Alabama are invited to be present.

Guest speakers will include Lesesne Smith, Spartanburg, S. C.; Owen Wilson, Nashville; Samuel F. Ravenel, Greensboro, N. C.; John Signorelli, New Orleans; and Major Parsons, Ft. McClellan.

# THE JOURNAL

OF THE

**Medical Association of the State of Alabama**
*Editor-in-Chief*

FRED W. WILKERSON .....Montgomery

*Associate Editors*

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## DIFFERENTIAL DIAGNOSIS OF COMATOSE PATIENTS

"In the year 1933, 1,167 patients, or 3 per cent of the total hospital admissions, entered the Boston City Hospital in coma. The size of this figure is startling and certainly is greater than is generally appreciated. Since there are many causes of coma which require emergency treatment to save life; for example, diabetes, hyperinsulinism, poisoning, traumatic shock, exsanguination, subdural hematoma, brain tumor, meningitis and eclampsia, the importance of immediate diagnosis is evident.

"Textbook articles on coma discuss the subject in a general and abstract way without special regard to the practical problems involved. The literature in the journals is on the whole subject to the same criticism, although a few authors have attempted to aid the practitioner in the diagnosis of coma of unknown cause. In no case however, have the actual conditions found in comatose patients been analyzed with the purpose of obtaining information of practical diagnostic value."

Thus do Solomon and Aring<sup>1</sup> begin their excellent article on comatose patients as admitted to a large hospital. The various conditions that produce coma in their 1,167 cases are discussed in their order of fre-

quency and some of the chief diagnostic features are discussed briefly. Histories were obtained as well as possible.

Alcoholism headed the list with 690 cases or 59.1 per cent of the cases. "The chief diagnostic features of alcoholic coma were the alcoholic odor to the breath, the hyperemia of the face, throat and conjunctivae, and the absence of other abnormalities." These patients frequently vomited; convulsions were rare; and laboratory examinations were negative.

Trauma, generally injuries to the head, came next with 152 cases or 13 per cent of the total. "The diagnosis of traumatic coma was not difficult, because of the history of accident and the evidences of injury on examination."

Cerebral vascular lesions ranked third with 118 cases or 10 per cent of the total. "The most important points in the diagnosis of coma due to cerebral vascular lesions were the history of sudden onset of the coma, the age of the patient, the presence of a hemiplegia, and an increased blood pressure or auricular fibrillation. The lumbar puncture of a bloody fluid under an increased pressure was of great aid in the diagnosis of intracerebral or subarachnoid hemorrhage."

There were thirty-three cases of poisoning, 3 per cent of the total. Sixteen of these cases were due to the ingestion of barbitol or its derivatives and twelve were due to the inhalation of carbon monoxide.

There were twenty-eight cases of epilepsy, or 2.4 per cent of the total. The history, the convulsions, fresh lacerations, frothing at the mouth, and old scars on the tongue were features which aided in arriving at a diagnosis.

Diabetes was responsible for twenty cases or 1.7 per cent of the total. "Physical changes of diagnostic significance were subnormal temperature, increased pulse, Kussmaul respirations, soft eyeballs, acetone on the breath, and dehydration. Laboratory observations of diagnostic importance were glycosuria and hyperglycemia."

Meningitis also was responsible for twenty cases and the authors observe "that it is not generally realized that meningitis is as common a cause of coma among hospital entrants as diabetes." High temperature rapid pulse and respiration, stiffness of the

1. Solomon, Philip, and Aring, C. D.: The Differential Diagnosis in Patients Entering the Hospital in Coma, J. A. M. A. 105: 7 (July 6) 1935.



neck, the Kernig sign and Babinski toe sign were important diagnostic signs. Ten of the twenty patients were young children and "the spinal fluid was grossly abnormal in every case in which it was examined."

Pneumonia was likewise responsible for twenty cases. "Pneumonia is not mentioned in textbooks as one of the diagnoses to be considered in cases in which coma is a presenting sign. Yet pneumonia is as common as diabetes, and three times as common as uremia in this series." The principal diagnostic signs were fever, rapid pulse and respiration, cyanosis, and signs of consolidation in the chest.

Cardiac decompensation was the cause of coma in seventeen cases or 1.4 per cent; syphilis of the central nervous system in seven cases; uremia in seven cases; eclampsia in seven cases; and there were forty-eight cases due to miscellaneous causes.

The authors hold that "the age of the patient was of interest, since the degenerative conditions (cerebral vascular lesions, cardiac decompensation and uremia) occurred chiefly among elderly patients, while infectious conditions (meningitis and pneumonia) were more frequent in the young. The laboratory data were often the deciding points in the diagnosis . . .

"It should be noted that little emphasis has been placed upon the depth of the coma, the condition of the pupils or the state of the reflexes. In our cases these have not been of great practical differential value. The depth of the coma may vary, no matter what the cause. The pupils tend to be abnormal in the majority of the cases of coma, regardless of the cause, and there is no definite rule as to what kind of abnormality will be present in any particular case. The same is, in general, true of the reflexes. Gowers has pointed out that the manifestations in a patient in coma depend to a large extent on the depth of the coma, whatever the cause maybe. This has been our experience."

Few conditions constitute a greater challenge to the diagnostic acumen and therapeutic resourcefulness of a practitioner than does coma, especially if a patient is comatose when seen for the first time and the physician is without access to hospital and laboratory facilities. Diagnosis must be correct and treatment prompt or pre-

ious time may be lost. Solomon and Aring have done well to review and analyze a large series of cases and their report is highly instructive. More studies such as theirs will aid materially in advancing the diagnosis and treatment of coma.

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## Association News

The eighty-seventh annual session of the American Medical Association will be held in Kansas City, Missouri, from Monday, May the eleventh, to Friday, May the fifteenth, nineteen hundred and thirty-six.

The House of Delegates will convene on Monday, May the eleventh.

The Scientific Assembly of the Association will open with the General Meeting held on Tuesday, May the twelfth, at 8:30 P. M.

The various sections of the Scientific Assembly will meet Wednesday, May the thirteenth, at 9 A. M. and at 2 P. M. and subsequently according to their respective programs.

The apportionment of delegates made at the Cleveland Session of 1934 entitles Alabama to two delegates. These are Drs. J. N. Baker, Montgomery, and A. A. Walker, Birmingham.

\* \* \*

Dr. Roy R. Kracke, Professor of Pathology, School of Medicine, Emory University, delivered a lecture on "The Dangers of Self-Medication," at the School of Medicine, University of Alabama, March 14th. The lecture was given under the auspices of Phi Beta Pi, Professional Medical Fraternity.

\* \* \*

The 1936 examinations of the American Board of Ophthalmology will be held in Kansas City, May 11th, and New York City in October—at the time of the meeting of the American Academy. All applications and case reports must be filed at least sixty days before date of examination.

\* \* \*

The New Orleans Assembly of the Southeastern Surgical Congress convened March 9-10-11. Physicians of Alabama who appeared on the program included Drs. O. P. Board and James S. McLester, Birmingham; and Dr. J. U. Reaves, Mobile.

# PROGRAM OF THE ANNUAL SESSION MONTGOMERY

APRIL 21-22-23, 1936

JEFFERSON DAVIS HOTEL

First Day, Tuesday, April 21

## Morning Session

1. Call to Order at 10 A. M. by the President—  
*C. A. Thigpen, Montgomery.*
2. Invocation—  
*Rev. Richard Wilkinson, D.D., Pastor, St. Johns Episcopal Church, Montgomery.*
3. Address of Welcome—  
*Hon. W. A. Gunter, Mayor of Montgomery.*  
*J. Harold Watkins, President, Montgomery County Medical Society.*
4. Presentation of the President—  
*Senior Vice-President E. D. McAdory, Cullman.*
5. Message of the President—  
*C. A. Thigpen, Montgomery.*
6. Report of the Vice-Presidents—
  - (1) *E. D. McAdory, Cullman.*
  - (2) *A. B. Coxwell, Monroeville.*
  - (3) *W. M. Salter, Anniston.*
  - (4) *C. P. Hayes, Elba.*
7. Report of the Secretary—  
*Douglas L. Cannon, Montgomery.*
8. Report of the Treasurer—  
*J. U. Ray, Woodstock.*
9. Report of the Committee of Publication—  
*Fred W. Wilkerson, Montgomery.*
10. Reports of Standing Committees—
  - (1) Public Relations—  
*John A. Martin, Chairman.*
  - (2) Mental Hygiene—  
*Frank A. Kay, Chairman.*
  - (3) Maternal and Infant Welfare—  
*A. E. Thomas, Chairman.*
  - (4) Prevention of Cancer—  
*K. F. Kesmodel, Chairman.*
  - (5) Prevention of Blindness and Deafness—  
*Lucien Brown, Chairman.*

## Recess

## Afternoon Session

Tuesday, April 21

- 2:00 P. M. Edward W. Peterson, New York City.  
*Appendicitis in Infancy and the Younger Group of Children.*  
Discussion opened by A. A. Walker, Birmingham; G. L. Faucett, Gadsden.
- 3:00 P. M. Fred W. Rankin, Lexington, Kentucky.  
*Modern Management of Organic Lesions of the Colon and Rectum.*  
Discussion opened by Lloyd Noland, Fairfield; E. B. Frazer, Mobile.
- 4:00 P. M. Edgar Burns, New Orleans.  
*Surgery of the Prostate.*  
Discussion opened by J. U. Reaves, Mobile; Walter Scott, Birmingham.

## Recess

## Evening Session

Tuesday, April 21

- 7:30 P. M. Carl Henry Davis, Clinical Professor of Obstetrics and Gynecology, Marquette University School of Medicine, Milwaukee, Wisconsin.
1. *Motion Picture Demonstration of Normal Labor—*
- a. *Animated Drawings Showing Mechanism.*
  - b. *Unassisted Delivery, Natural Subject.*
  - c. *Normal Delivery—Closeup.*
2. *Motion Picture Demonstration of Use of Forceps.*  
Discussion opened by J. R. Horn, Jr., Bessemer; W. C. Bailey, Decatur.
- 8:30 P. M. Willis C. Campbell, Professor of Orthopedic Surgery, University of Tennessee College of Medicine, Memphis.  
*Physiological Principles Applied to the Treatment of Fractures: With Lantern Slides.*  
Discussion opened by Marcus Skinner, Selma; W. C. Hannon, Mobile.

Second Day, Wednesday, April 22

## Morning Session

- 9:00 A. M. Andrew B. Rivers, Assistant Professor of Medicine, University of Minnesota Graduate School of Medicine, Rochester.  
*Etiology, Pathology and Treatment of Peptic Ulcer.*  
Discussion opened by U. J. W. Peters, Birmingham; H. M. Simpson, Florence.
- 10:00 A. M. Walter E. Dandy, Adjunct Professor of Neurosurgery, Johns Hopkins University School of Medicine, Baltimore.  
*The Diagnosis and Treatment of Brain Tumors.*  
Discussion opened by Chalmers H. Moore, Birmingham; Bruce Holding, Montgomery.
- 11:00 A. M. William Dempsey Partlow, Superintendent, Alabama Insane Hospitals, Tuscaloosa.  
The Jerome Cochran Lecture—  
*The Debt the World Owes to Medical Science.*



- 12 Noon. John H. Musser, Professor of Medicine, Tulane University School of Medicine, New Orleans.  
*Abdominal Pain Due to Extra-Abdominal Conditions.*  
Discussion opened by Fred W. Wilkerson, Montgomery; C. A. Grote, Huntsville.

Note: Vacancies in the College of Counsellors will be announced at the conclusion of the morning session.

### Recess

#### Afternoon Session

Wednesday, April 22

- 2:00 P. M. Edward C. Ellett, Memphis, Tenn.  
*Ocular Tuberculosis.*  
Discussion opened by S. Kirkpatrick, Selma; J. D. Perdue, Mobile.
- 3:00 P. M. William D. Haggard, Professor of Clinical Surgery, Vanderbilt University School of Medicine, Nashville, Tenn.  
*Recent Developments in the Study and Surgery of Goitre: With Lantern Illustrations.*  
Discussion opened by S. L. Ledbetter, Jr., Birmingham; M. S. Davie, Dothan.

- 4:00 P. M. C. Jeff Miller, Professor of Gynecology, Tulane University School of Medicine, New Orleans.  
*The Preparation, Operative Technique and After Treatment of Complete Tears of the Perineum.*  
Discussion opened by G. G. Woodruff, Anniston; E. V. Stabler, Greenville.

### Recess

#### Evening Session

Wednesday, April 22

#### PUBLIC MEETING

- 8:00 P. M. Thos. Parran, Jr., Commissioner of Health, State of New York, Albany.  
*The Next Achievement in Public Health.*
- 9:00 P. M. W. W. Bauer, Director, Bureau of Health and Public Instruction, American Medical Association, Chicago.  
*Popular Beliefs That Are Not So.*

#### Last Day, Thursday, April 23

1. Call to Order at 9:00 A. M.
2. Business Meeting of the Association Sitting as the Board of Health of the State of Alabama.
  - (1) Report of the Board of Censors;
  - (2) Revision of the Rolls;
  - (3) Election and Installation of Officers.

## DEPARTMENT OF PUBLIC HEALTH

### BUREAU OF LABORATORIES

James G. McAlpine, Director

#### FOOD POISONING\*

##### II. STRYCHNINE

Strychnine is a widely used therapeutic agent and is the most common alkaloidal poison. It is a powerful drug, easily obtained, and its poisonous properties are known to all. Accidental, deliberate homicidal and suicidal poisonings by strychnine are frequent and are usually fatal. The fatal dose has been placed at one-half grain.

Strychnine poisoning can be recognized by the symptoms which are noticeable, in most cases, within a few minutes after the drug has been taken. The first symptoms are nervous twitchings, tremors and constrictions of the muscles of the face and neck. These are followed rapidly by severe

convulsions that occur intermittently, producing death, usually within the first hour, from asphyxia or exhaustion. In a subject who has heart disease, death may follow the first or second convulsion. In a normal person death may be prolonged through the fifth or sixth convulsion. Vomiting is not common in this type of poisoning.

The first effects may be noticed within the first five minutes, or they may be delayed considerably longer, due to the slow absorption of the poison. If the stomach contains a large amount of solid material, the poison may be absorbed in that, thereby delaying its action and modifying the toxic effects so materially that the subject tolerates an otherwise fatal quantity and recovers. The tetanic spasms may be precipitated and aggravated by external influences such as a loud noise, a sudden jar, or any shock to the nervous system.

Proper treatment consists in controlling the convulsions, supplying oxygen and elim-

\*Second in a series. The first appeared in February.

inating or destroying the poison. Complete relaxation is necessary. This may be produced by the use of an anesthetic or hypnotic. Ether or chloroform is commonly used, while chloral or the sodium salts of some of the substituted barbituric acids have produced good results. They may be administered by the mouth or injected. Morphine may produce a temporary excitement and for this reason its use is questionable. A stomach tube may be passed after partial narcosis and after having given tannic acid, potassium permanganate, and sodium persulphate. Or an emulsion of activated carbon in milk of magnesia, followed by tannic acid, may be preferred. Activated carbon is very efficient in absorbing small quantities of organic substances, such as strychnine, which can be removed from solution entirely by this means. It is well to remember that an attempt to swallow an antidote or to pass a stomach tube may result in a severe convulsion that may prove fatal to a patient who is not relaxed with a sedative.

In cases where criminal poisoning is suspected or is a possibility, all materials that may contain traces of the poison should be preserved and delivered under seal to the State Toxicological Laboratory at Auburn. In cases of strychnine poisoning, the urine and stomach contents usually contain these traces. If an autopsy is performed, the stomach and contents, with the small intestine, the liver, the spleen, and the kidneys should always be taken for laboratory examination. These specimens should be preserved in pure grain alcohol. If the type of poison is not known, the specimen should be packed in ice.

The stomach is not always sufficient material for a toxicological examination. If poison is contained within the stomach, it is yet without the body, and that residue of strychnine remaining in the stomach has played no part in the death. It is possible that a person may die from an oral administration of strychnine and no trace can be found in the stomach, yet be extracted from the liver. If the strychnine be administered per rectum or injected, there would be little chance of finding even a trace in the stomach. The finding of strychnine in the stomach does not always convince a court of law that death was caused by strychnine, but

the presence of lethal quantities in the internal organs is conclusive evidence.

## BUREAU OF SANITATION

G. H. Hazelhurst, Director

### THE MEDICAL EXAMINATION OF MILK HANDLERS

Since fresh fluid milk is so favorable a medium for the growth and multiplication of pathogenic organisms, as has been proven by the fact that milk supplies have been responsible for numerous epidemics of typhoid fever, diphtheria, septic sore throat, scarlet fever, etc., the prevention of infection of milk supplies with human disease organisms has been the ideal of milk control officials.

The means of attaining this ideal has usually been the examination of milk handlers and prospective employees, to eliminate those in the incipient or acute stages of communicable disease, or to prevent their employment. However, the annual examination of all milk handlers, particularly for the typhoid carrier condition, is a time-consuming and expensive undertaking. After having been conducted several successive years, the discovery of carriers is a very rare occurrence. Since the fall of 1932, when the laboratory personnel was first reduced, the routine examination of stools and urine specimens for the typhoid carrier condition has been discontinued in this State.

The taking of nose and throat swabs, for determining the presence of *B. diphtheriae* or hemolytic streptococci, made once during each calendar year, falls so far short of preventing the possibility of infection of milk supplies by human contact, and has so little to justify it in view of the cost involved, that it is difficult to understand why annual health examinations of this nature ever came to be considered an essential feature of milk control.

The United States Public Health Service Milk Sanitation Advisory Board has recognized this fact, but also realizes that the question of ambulatory cases of communicable disease, and carriers among milk handlers, cannot be entirely ignored. Too large a proportion of milk is still consumed raw. There is also the thought that if every



prospective dairy employee is required to submit to an examination before employment, a certain proportion of the cases and carriers of communicable disease may be kept out of the dairy industry.

Accordingly, Items 25R and 21P, of Section 7, of the U. S. Public Health Service Milk Ordinance, pertaining respectively to Grade A retail raw and pasteurized milk specifications, have been written to read as follows:

Every person connected with a retail raw dairy (pasteurization plant) whose work brings him in contact with the production, handling, storage, or transportation of milk, milk products, containers, or equipment, shall furnish such information, permit such physical examinations, and submit such laboratory specimens as the health officer may require for the purpose of determining freedom from infection.

The health officer, or a physician authorized by him, shall in each such instance take a careful history, and if such history suggests that such person may be a carrier of or infected with the organisms of typhoid or paratyphoid fever, or of any other communicable diseases likely to be transmitted through milk, he shall secure appropriate specimens of bodily discharges and cause them to be examined in a laboratory approved by him or by the State health authorities for such examinations.

Although a personal statement relative to typhoid fever, particularly by a negro, may have a doubtful value, which is dependent, by the way, both upon the intelligence and veracity of the subject, and upon the persistency of the interrogator, it is felt that if typhoid carrier examinations can be limited to those who give a history of typhoid, the burden upon the laboratory can be kept at a minimum. Furthermore, since typhoid is usually a confining disease, the presence of a case in a dairy employee should not escape notice. Therefore, one history of each employee, and, if indicated, a series of examinations, should constitute a practical and reasonably effective safeguard against this disease, so far as a safeguard can be established by examinations. Such a single examination should also serve to eliminate individuals with active tuberculosis, or obvious symptoms of other diseases.

Following the adoption, on January 22, 1935, of the Amended State Board of Health Milk Regulations in the City of Gadsden, a blank for physical records was

devised for use by county health officers in examining milk handlers. A copy of this blank appears immediately below.

ALABAMA STATE BOARD OF HEALTH

Bureau of Preventable Disease Control

PHYSICAL RECORD

Name Sex Color Age

Weight Height Color of eyes Color of hair

Other identifying marks

Home address

Place of employment

Duties

General Health

Has subject ever had typhoid fever? Approximately when? Results of laboratory examinations (if a history of typhoid is given):

Date	Result	Date	Result	Date	Result
Feces					
Urine					
Number of inoculations against typhoid			Date of last		
History of tuberculosis In subject			In family		
If history, signs and symptoms					
Sputum examination results					
X-ray findings					
Purulent discharges of eyes			ears	nose	
Any ulcers?		Where?	Nature		
Skin disease					
Has subject ever had diphtheria?			When?		
septic sore throat?			When?		
scarlet fever?			When?		
Results of examinations for other diseases					
Remarks:					
Date					
Registration Number			County Health Officer		

In connection with this blank an identification card was also developed, copy of which follows:

ALABAMA STATE DEPARTMENT OF PUBLIC HEALTH

The Bearer of This Card

Reg. No.

Sex Color Age Wt. Ht.

Color of eyes Color of hair

has been examined and permitted to work as a milk handler.

Date

County Health Officer

The Division of Inspection serves as the clearing house for information concerning the holders of such identification cards. When the health officer transmits the physical record blanks to the Division, serially numbered cards are prepared and returned, with the record blanks, to the health officer for his signature and distributed to those individuals to whom they were issued. They are then posted in the milk-house or milk plant, in close proximity to the permit, or the inspection reports, so that the inspector may readily be in position to know whether all the personnel in any establishment has been examined. When an em-





been made available by the present one, the bill having been signed by the President on February 11th.

Plans for a sane and practical expenditure of the funds that will be made available to Alabama have been submitted for approval. These plans were submitted to the Children's Bureau of the Department of Labor, which Bureau is charged with the administration of the program in participation with state health departments. Funds appropriated by the Congress are to be used for payment of one-half the cost of the plan of the State Health Department for maternal and child health activities.

The Children's Bureau has stipulated the following requirements for each state to receive financial aid through the Social Security Act in promoting maternal and child health services.

1. Financial participation by the State. At least fifty per cent of the cost of the program must be defrayed by the State.

2. Administration of the plan or its supervision by the State Health Department.

3. Provision for reports by the State Health Department.

4. Provision for extension and improvement of local maternal and child health services.

5. Provision for cooperation with medical, nursing and welfare groups and organizations.

6. Provision for development of demonstration services in needy areas and among groups in special need.

The plan submitted for Alabama complies with all the provisions set forth by the Children's Bureau. The plan takes into consideration that the extension and improvement of maternal and child health services in Alabama can best be accomplished through the addition of personnel to the State staff of the Bureau of Hygiene and Nursing and of public health nurses to the personnel of certain existing county health units. Fifty-seven of the sixty-seven counties in the State now have health departments. These units provide all time health services to 91.2 per cent of the population of the State. These services are inadequate because of the area and population that must be served by a minimum personnel.

The administration of the plan will be

through the State Health Department in cooperation with the county health units. In presenting plans for the program due cognizance has been made of the vital part taken by The Medical Association of the State of Alabama in promoting all public health procedures in the State. The Committees of Public Health and Maternal and Infant Welfare of the Association, together with the County Boards of Health, will be called upon to approve and aid in the promotion of the program.

The public health committees from the State Dental Association, and State Nurses' Association together with the State Tuberculosis Association, American Red Cross, United States Department of Agriculture, Normal and other institutions of higher learning will be asked to cooperate in the educational activities for the promotion of the program.

A State Advisory Committee has been formulated for the promotion of plans for the cooperation of all agencies concerned in any way with maternal and child welfare.

This committee is represented by the following personnel:

1. The Governor, Honorable Bibb Graves,

2. The State Department of Education, Dr. J. A. Keller,

3. The Commissioner of Public Welfare, Dr. A. H. Collins,

4. The Director, State Department of Labor, Mr. R. R. Moore,

5. The Director, State Employment Service, Mr. J. G. Duncan, Jr.,

6. The Director, Unemployment Compensation Commission, Mr. J. L. Kaufman,

7. The State Health Officer, Department of Public Health, Dr. J. N. Baker.

At the first conference of the members of this State Advisory Committee it was agreed that the administrative heads of the departments of the State government involved will direct their respective field and county representatives relative to the cooperative procedures that are decided upon by the State Advisory Committee. It was also suggested that there should be created in addition to the State Advisory Committee, county advisory groups to be known as "County Councils for Community Better-

ment." It was proposed that the county advisory groups be composed of representatives from all professional and lay groups of paid and volunteer organizations within the county whose personnel is interested in the promotion of maternal and child welfare and in other services to the community.

These state and county advisory groups are to meet regularly to discuss problems and programs. At such meetings the programs with recommended methods of procedure will be correlated through the combined efforts of the members present.

The entire program will be directed toward the reduction in morbidity and mortality rates among mothers, infants, pre-school and school children.

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## BUREAU OF PREVENTABLE DISEASE CONTROL

D. G. Gill, M.D., Director

### THE STATE CHEST CLINIC

With the exception of three counties that maintain their own tuberculosis dispensaries, every county in Alabama has at some time during the past five years had from one to twelve visits of the State Chest Clinic. During 1935 this clinic, operating as a consultation service to the physicians over the State to aid in their diagnosis of pulmonary tuberculosis, conducted ninety-one clinics in sixty counties. A thousand-one hundred-and-eight (1,108) physicians referred four thousand-four hundred-and-six (4,406) patients to these ninety-one clinics. Each patient was studied and an x-ray film made of his chest. There were six hundred-and-seven (607) diagnosed as having pulmonary tuberculosis; three hundred-and-six (306) more gave x-ray evidence of childhood type tuberculosis infection; and one hundred-and-ninety-one (191) were classified as strongly suspicious of having tuberculosis but requiring more evidence to definitely establish the diagnosis. It is correctly assumed that, as a result of aroused interest in chest diagnosis following the visits of the clinic, a considerable number of other patients consulted their physicians for chest examinations who would not have done so otherwise. It is equally true that many more physicians were encouraged by

the chest clinic to be on the lookout for new cases of pulmonary tuberculosis.

By familiarizing every physician with the objectives of the State Chest Clinic and its plan of operation it is hoped that in the future an even fuller use will be made of the service to the best advantage of all concerned. Recognition of all cases of pulmonary tuberculosis is the alpha of any tuberculosis control program. The chief objective of the clinic is to aid the physicians in this search and to see that all cases of tuberculosis are reported to the health department. Realizing that an x-ray classification of even the known cases of tuberculosis is essential for their proper medical supervision, the clinic advocates at least one x-ray study to be made. By having periodic tuberculosis clinics in the counties both patients and physicians become more tuberculosis conscious. It is not the purpose or intent of the clinic to enter the field of treating tuberculosis.

Our present plan of clinic operation attempts to provide each county requesting this service with at least two clinics a year. To do this with a single unit requires the holding of two clinics a week. In the counties with health units, arrangement of the clinic group is done by the County Health Officer and the County Nurse. It is the ruling of the clinic that only those referred by a practicing physician are eligible for admission. In dealing with contacts it is necessary to have a tuberculin test made in advance of the clinic visit and unless there is a specific request by the referring physician, tuberculin negative contacts will not be further studied. At a preliminary visit a history is taken and the chest x-rayed on every patient. At a second visit a physical examination is made on a selected group. The result of the x-ray study and subsequent examination (when made) is provided the referring physician and under no circumstance is the patient advised by the clinic of the findings. This two-visit plan enables the chest clinician to demonstrate the x-ray films to the physician and to discuss individual problems with him. An honest effort is made to discourage repeated re-examinations of positive cases by the State Chest Clinic. These re-examinations are of course highly desirable in checking the progress of the disease but it is felt that such



work should be done by private roentgenologists. The films made by the State Clinic are gladly loaned to physicians upon request.

R. A. B.

CONGENITAL SYPHILIS

If every pregnant woman who has syphilis be given at least ten injections of neosalvarsan and an equivalent amount of bismuth, eighty-five per cent of the children born of such mothers would not be syphilitic. But the treatment must be instituted before the fifth month to insure for the child freedom from syphilis. Recent statistics show that about one-fourth of all pregnancies among syphilitic families result in the death of the fetus at or before term. Adequate treatment will prevent these deaths, but a blood Wassermann ought to be made on every prenatal in order to prevent congenital syphilis.

BUREAU OF VITAL STATISTICS

Leonard V. Phelps, Director

DEATHS FROM ACCIDENTAL CAUSES IN ALABAMA, 1934

The sixth leading cause of death in 1934 was accidents and other violence. Considerable interest has been shown concerning the increase in mortality from accidents. In order to show the relative importance of accidents as a cause of death, three charts have been prepared.

Chart I shows the per cent increase in deaths from all accidental causes, automobile accidents and deaths from all causes for each year, 1923-1934, referred to 1923. It will be seen that the per cent increase in automobile deaths has risen very sharply during the twelve-year period. It should be noted that the total deaths in 1934 exceeded the number in 1923 by 8.7 per cent, all accidental deaths by 24.2 per cent, whereas deaths from automobile accidents increased 219.7 per cent.

Another way to look at the problem is to compare the number of deaths due to accidents with the number of deaths due to other causes. In Chart II a comparison is afforded. Deaths from heart disease constituted 13.4 per cent of deaths from all

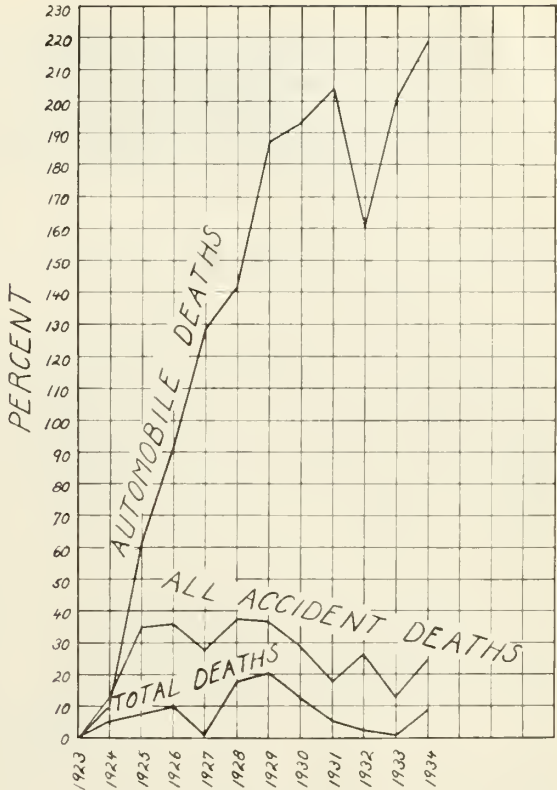


CHART I  
INCREASE OF ACCIDENTAL DEATHS SINCE 1923:  
ALABAMA

causes. Nephritis was next, claiming 7.6 per cent of all deaths, as did pneumonia. In decreasing order of importance were cerebral hemorrhage, tuberculosis, accidents and cancer.

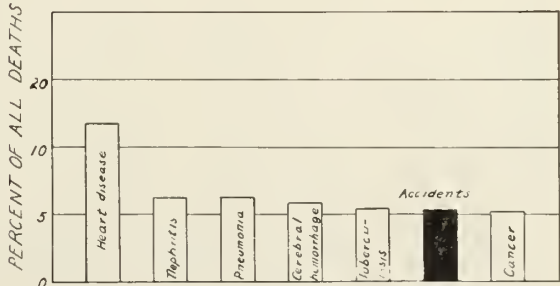


CHART II  
DEATHS FROM ACCIDENTS COMPARED WITH OTHER  
CAUSES: ALABAMA, 1934

Still another approach to the accident problem is a comparison of the age distribution of deaths. The most important fact concerning the age distribution of deaths from accidents is that a very large proportion of them are of persons 20 to 49 years of age, which is the most productive period

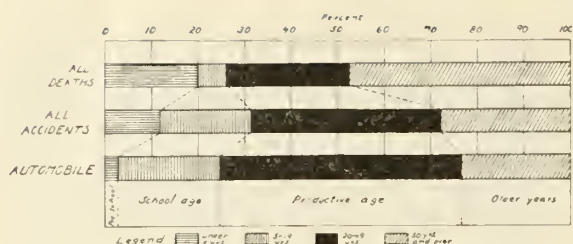


CHART III  
TOLL OF LIFE BY ACCIDENTS AT PRODUCTIVE AGE  
COMPARED WITH OTHER CAUSES BY  
DEATH: ALABAMA, 1934

of life. Chart III shows that 26 per cent of people dying of all causes die between 20 and 50 years of age. Of accidental deaths, 41 per cent die at these ages. Of automobile deaths, 52 per cent die during this productive period of their lives.

## CURRENT STATISTICS

### \*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

	Dec. 1935	Jan. 1936	Estimated Expectancy Jan. 1936
Typhoid	12	8	25
Typhus	18	20	6
Malaria	109	61	57
Smallpox	1	3	24
Measles	37	79	319
Scarlet fever	59	56	122
Whooping cough	32	70	152
Diphtheria	102	80	163
Influenza	486	1180	691
Mumps	124	386	87
Polio-myelitis	4	4	3
Encephalitis	1	2	3
Chickenpox	236	307	189
Tetanus	2	2	4
Tuberculosis	209	161	274
Pellagra	9	13	13
Meningitis	6	10	8
Pneumonia	539	916	437
Syphilis	540	641	133
Chancroid	2	6	6
Gonorrhea	218	281	154
Ophthalmia neonatorum	6	1	2
Trachoma	0	0	0
Tularemia	0	2	1
Undulant fever	3	3	0
Dengue	0	0	0
Amebic dysentery	1	0	0
Rabies—Human cases	0	0	0
Positive animal heads	77	68	—

\*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years. With the venereal diseases, clinic cases were not included prior to this year.

**Health Education**—Above all, bear in mind the similar dissimilarity of mankind. Bread is the staff of life and yet how different the breadstick of the Italian from the pancake loaf of the Armenian. And though each is bread, still will the one be eschewed in preferment to the other—one's own bread. It is for us to be mindful of men's preferences in instruction as in bread.—*Galdston, Am. J. Pub. Health, February 1936.*

## Woman's Auxiliary

Mrs. Thos. E. Dilworth  
State Publicity Chairman  
Huntsville, Ala.

As the time draws nearer for our annual convention, we cannot help but experience a feeling of varied emotions. There is always a tinge of sadness in the closing of a year; a little breaking down of the closeness with which officers work together side by side in a unified effort, for a common purpose. Much has been accomplished this year, and sincere thanks are offered to all who have so generously contributed of their time and effort to make the wheels of our organization move forward. May we continue to progress, always bearing in mind the aims and purposes of our Auxiliary!

With our faith founded in the preceding years, we also experience a feeling of confidence, hope—even optimism—in the approach of our new year. Under the leadership of Mrs. Roe, we aspire to even greater things, realizing that each of our leaders is an important link in the chain of success.

The plans for our convention program are progressing nicely. We shall have the honor of having as our guest speaker Mrs. Rogers N. Herbert of Nashville, Tennessee, our National President.

Dr. Douglas L. Cannon of Montgomery, Managing Editor of The Journal of The Medical Association of the State of Alabama, will present a brief history of Alabama's medical organization.

Dr. Carl A. Grote of Huntsville, a member of our Advisory Council, will also speak to us.

I am sure we are all looking forward to this with much interest. Please, each of you, make definite plans to attend the convention.

\* \* \*

Our President visited Talladega County this month. We are most happy to announce the organization of this county auxiliary and welcome it to our midst.

Mrs. Jordan was guest speaker for the Bessemer Auxiliary at its meeting, Wednesday, February 19th. The Anniston Auxiliary had the privilege of having her as its guest at its last meeting.

\* \* \*

The Madison County Auxiliary met the second Tuesday in February with the elec-



tion of officers, resulting in: President, Mrs. Jas. L. Laughlin; Vice-President, Mrs. Carey Walker; Treasurer, Mrs. Frank Jordan; Secretary, Mrs. Moody Walker. These new officers will be installed at our next meeting, being honored with a tea to which the hospital staff, nurses and wives of the druggists and dentists are invited.

\* \* \*

I hope to see each of you at the convention.

## Truth About Medicines

### PROPAGANDA FOR REFORM

The Eleventh Revision of the Pharmacopeia of the United States of America.—The Eleventh Revision of the Pharmacopeia is now at hand. The new Pharmacopeia follows the old one in style and general method of presentation. The progress of the revision may be measured in part by the deletions. The Revision Committee reports that 119 products have been deleted either because they had been superseded by better products pharmaceutically or medically or because their period of usefulness had expired in view of more modern methods of treatment. The new additions to the Pharmacopeia, of which there are fifty-eight, include Calcium Gluconate, Carbon Dioxide, Chiniofon Powder, Ephedrine and the Hydrochloride and Sulfate, Ethylene, Histamine Phosphate, Iodophthalein Soluble (Tetraiodophenolphthalein Sodium), Membaphen, Mercuric Succinimide, Mild Tincture of Iodine, Neocinchophen and Parathyroid Solution. Thirty-nine of the new additions are already familiar to physicians in New and Nonofficial Remedies; sixteen are so well established that they appear in Useful Drugs. Of course there are a number of drugs without which the physician cannot practice successfully which are not included in the Pharmacopeia. This is in accord with the recognized policy of the Pharmacopeia that monopolized substances are not admissible; thus, as long as there is a patent for insulin it cannot be admitted. There are also other drugs, such as certain mercurials, arsenic preparations and antiseptics, for which the physician will continue to rely on New and Nonofficial Remedies for his guidance. It would seem well,

if an interim revision is issued, that a shorter acting barbiturate be included. For instance, pentobarbital sodium is a nonproprietary drug having the necessary short-acting attributes. Within the last two years the Committee on Revision in cooperation with the Board of Trustees of the U. S. Pharmacopeial Convention has initiated a practice of issuing an "interim revision." This has now become an established policy. It has the advantages of early correction of serious mistakes and the necessity of making products conform with new manufacturing processes. However, it has the decided drawback of requiring the physician to keep constantly in mind any possible changes which the Commission may issue affecting prescription practice and may easily become a hardship on manufacturers. It is hoped, therefore, that these revisions will be issued most conservatively. The nomenclature used in certain instances in the new Pharmacopeia is unfortunate. For instance, physicians are asked to prescribe "Theophylline with Ethylene Diamine," when there was already available to the Pharmacopeia the nonproprietary name Aminophylline. The Pharmacopeia has also included the cumbersome term of the British Pharmacopeial Commission, "Solution of Irradiated Ergosterol," when the nonproprietary name "Viosterol in Oil" would have been much simpler. In the interest of the medical profession the Journal will continue to use the terms Aminophylline and Viosterol in Oil. As has so often been said, common usage establishes a name. Seldom did one use the word "Gluside" in prescribing saccharin, so the Pharmacopeia has reverted to the old term "Saccharin." Names and standards for the ten newly admitted biologicals (a Typhoid, a Typhoid-Paratyphoid and Rabies Vaccines; Scarlet Fever Streptococcus Toxin and the Antitoxin; Diphtheria Toxin and the Toxin for Schick Test; Antipneumococcic (Type I) and Antimeningococcic Serums and Old Tuberculin) were provided by the National Institute of Health. A subcommittee on vitamins, responsible for the Interim Revision of Cod Liver Oil, will oversee standards on this vitamin A and D containing substance. The International Units of vitamins A and D and digitalis have become the official U. S.

P. units, with some modifications. It is interesting to note the description of liver and stomach preparations. Here no standards are given, but the Pharmacopeia endeavors to control these products with the following statement: "This Board will indicate liver and stomach preparations which are of Pharmacopeial quality—as indicated by submitted clinical data." For the most part the latest edition of the Pharmacopeia is indeed a credit to the Revision Committee. The Journal and the Council on Pharmacy and Chemistry have consistently urged that physicians prescribe official preparations whenever possible. (J. A. M. A., December 21, 1935, p. 2074.)

Gold Therapy in Arthritis.—The use of gold as a remedy is not new. The value of the metal has always conferred upon it possibilities for symbolic and suggestive therapy. Recently, however, gold has been used seriously and extensively. Major attention has been directed toward its use in tuberculosis of various forms, asthma, arthritis and certain skin diseases. The precise way in which gold acts is not known. It seems improbable that, *in vivo*, gold has any direct action on organisms. It has been suggested that it may act by "stimulating some defense forces in the patient," most probably the cells of the reticulo-endothelial system. Such an action is similar to that of nonspecific proteins. Although scientific reports on gold therapy are infrequent in the domestic literature, several recent reports have appeared in continental and British journals, especially with reference to its use in rheumatoid arthritis. Thus there is now a considerable amount of independent work indicating the therapeutic effectiveness of gold salts in rheumatoid arthritis. The best preparation, mode of administration and dosage are not a matter of general agreement. However, all reports are in agreement on the toxicity of gold compounds. Erythematous and even exfoliative dermatitis may be observed. Nephritis with albuminuria, edema and sometimes raised blood urea may occur. A tendency to bronchial irritation has been noted. Shock and collapse occurring immediately after an injection have been reported. Pyrexia has been reported and is probably more frequent when an intravenous preparation is used. Stomatitis and diarrhea

sometimes occur. Isolated cases of hyperkeratosis of the soles, pustular dermatitis of the hands and feet, labial edema, herpes zoster, erythema nodosum, lichen planus and purpura have been noted. The conservative attitude that must still be taken in the use of gold preparations is indicated by the fact that the Council on Pharmacy and Chemistry has not yet accepted any therapeutic gold preparation with claims of usefulness in arthritis. It seems that aurotherapy is promising in a restricted field when some of the doubtful factors become clear and the necessary precautions against toxic reactions standardized. At the present time no one who is not thoroughly familiar with the indications and dangers should attempt its use. (J. A. M. A., December 28, 1935, p. 2163.)

#### ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following apparatus have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

American Universal Desk.—This desk is recommended for use in schools and colleges. It consists of (1) the Better-Sight desk top (type E), (2) the Standard desk top (type S), and (3) the seat accompanying both desk tops. The Standard desk top is designed for use in the primary grades. In a very large measure, the Better Sight desk top combined with the chair member may be expected to lessen eye strain and to encourage a good sitting posture. The desk was examined and found to be comfortable and believed to be adapted to the conservation of vision. American Seating Company, Grand Rapids, Mich. (J. A. M. A., February 15, 1936, p. 538.)

Junior Bovie Electro Surgical and Medical Diathermy Unit.—This unit is designed for electrosurgery, but it may also be used for medical diathermy. Three types of current are available: cutting, coagulating and medical diathermy. It is provided with convenient switches, making these currents readily accessible. The electrical and physical characteristics of the unit are within the limits adopted by the Council. The Liebel-Flarsheim Company, Cincinnati, Ohio. (J. A. M. A., February 29, 1936, p. 707.)



## Miscellany

### DO YOU KNOW?

(A release of the Medical Society of the State of New York)

Twenty-five years ago twice as many babies died in the first year of life as die today. Nearly one-half of the deaths under one year occur during the first month of life. Scientific research provides definite knowledge of the cause and prevention of many diseases which baffled humanity a quarter of a century ago.

The silkworm industry is conducted in 2,000,000 Japanese homes.

Fats are important in the diet of children as cold weather approaches because they help to supply the fuel which is burned up in the heat and energy produced by a growing child. But they are highly concentrated foods more slowly digested than some of the other groups. The most useful and most digestible fat is butter. In addition to the fat it contains, butter furnishes the important Vitamin A which helps the young body grow.

It has been established that the ancient Romans knew about ball bearings and stop-cocks. These devices have been discovered in pleasure ships of the Emperor Caligula, found at the bottom of Lake Nemi after all the water had been pumped out of the lake.

Salad sandwich is an excellent thing for the school lunch. Sliced eggs may be combined with chopped pickled beets that have been well drained to produce a sandwich filling that needs no dressing. If fresh tomatoes are not available, a tomato sauce sandwich with wheat or graham bread may be substituted. Saute a little minced onion for a minute or two in butter. Stir in one-half teaspoonful of flour. In winter add a canned tomato that has been drained from its liquid and mashed up. Add seasonings of salt and pepper and cook with the onion, stirring constantly until it is very thick. Let this cool entirely before spreading and, if it is too thin, use lettuce or cabbage leaves next to the bread.

Leonardo Da Vinci was not only an artist, but an engineer. He advocated building avenues in two tiers on busy city streets—a device now used in “ramps” in the larger cities.

Pneumonia is third among causes of death, and every year this disease takes a toll of 100,000 lives. Every person who has a cold should consider himself potentially in danger of pneumonia. This awareness may save his life, for in no other disease is prompt recognition and action more imperative than in pneumonia.

Medical science has developed serums for many types of pneumonia. There are 32 types of bacteria causing the disease; serum is available for the most prevalent types. For the serum to be effective it must be administered promptly. This requires both that the disease be recognized as pneumonia early after its onset, and that the particular type be determined by laboratory tests. People should know that colds accompanied by fever are more dangerous than they may seem, for they may be early pneumonia.

Good nursing care is essential in the treatment of pneumonia. Pneumonia cases are fighting a terrific battle against heavy odds; nursing care is a real life-saving measure; there is no disease in which it is more imperative.

Science has yet to discover, with exactitude, just what sleep is, and how it is produced. But everybody knows that it is “Nature’s sweet restorer,” and that the wise person gets plenty of it.

“Women Cry but Men Swear,” says Donald A. Laird, Ph.D., director of the psychological laboratory of Colgate University. It could be argued that extensive research ought to precede such a clear-cut division between the sexes on this matter. Aristotle claimed that women had four more teeth than men after he had examined one man and one woman.

Heart disease, which takes the greatest toll of lives of all the enemies of mankind, is to a great degree preventable. In chil-

dren, heart trouble may be caused by scarlet fever, diphtheria, and streptococcus infections. In types of heart disease common to middle and late life, the early symptoms are discernible by examination. Heart disease may be arrested, and years of usefulness added to many lives, if attention is paid to the first symptom of distress, or increasing difficulty in breathing after accustomed exertion, or pain in the chest.

It would seem to be an easy thing to trisect a triangle—but it is easy only in appearance, for no mathematician yet has been able to do it.

During the quarter of a century of enforcement of the pure food and drugs act, the government has brought action against 40 alleged cancer "cures."

The practice of medicine is a highly individualized pursuit; when a man gets sick it is not only a case of pneumonia, it is John Smith with his family problems, his hopes and fears, who is sick. Patients are always individual problems, and no x-ray or laboratory test can take the place of the skilled interpretation of such findings in terms of the particular person. One reason why mass medicine will never be accepted by the people is that when a man is sick he wants help from people in whom he has confidence, not from strangers sent to him by the state.

Before the days of Darwin, science classified animals by their superficial similarities, which made the whale a fish and the bat a bird.

Finding physical defects early gives children the best possible chance to grow to healthy maturity. Dental defects are especially common and should receive attention. Many illnesses of later life, such as heart

disease, arthritis and deafness, may be caused by tonsils that become infected in childhood and were allowed to continue pouring poison into the system.

The age of the universe is at least 10,000,000,000,000 years, according to Sir James Jeans, British astronomer.

Is it bad for children to eat between meals? No; depending on the child and on the food. If it does not interfere with his appetite for the next meal, he will be benefited by light lunches of fruits, fruit juice, whole wheat bread, or prepared cereals.

In the middle of the 17th century an approved way to cure insanity was to stick the patient's head in a furnace and burn out his illusions.

Activity of the brain continues during sleep. Electrical instruments have been devised which measure the activity and record it in wavy lines. The type of wave indicates the depth of sleep. The wave is changed instantly if somebody talks to the sleeping person.

The Spartans of ancient Greece tried doing without money but did not like it.

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# THE JOURNAL

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### OXYGEN THERAPY IN GENERAL PRACTICE

By  
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America, Ala.

Oxygen was isolated by Priestly in 1774 and twenty-four years elapsed before Thomas Beddos used it therapeutically.<sup>1</sup> Modern application of this form of therapy dates from about 1922. Haldane, during the World War, treated a number of soldiers suffering from pulmonary edema and pneumonia with such excellent results that interest and enthusiasm were aroused. In these treatments he used a small portable tank and mask. At the present, sufficient time has elapsed to enable us to arrive at some conclusions concerning the effects on the human individual, and can definitely point out certain benefits to be derived from the administration of this adjuvant. We should keep in mind that oxygen must be given early in the disease and that it is most valuable in cases of acute anoxemia as evidenced by cyanosis, such as is found in pulmonary congestion and edema, frank pneumonia and laryngeal or tracheal obstruction.<sup>2</sup>

Often the practitioner has been so slow to use the oxygen in treating his patient, and only as a last resort, that the results are not very brilliant; and the laity has come to look upon the administration of oxygen as a sign of impending death. This is in part due to the fact that the patient may have to be removed to a hospital, which, per se, almost means the signing of the death certificate in pneumonia, or ex-

pensive equipment must be purchased or rented and maintained. At first oxygen chambers were built in England; later several were built in the hospitals of this country. They are still the most efficient means of giving oxygen. Tents were suggested by Hill in 1922<sup>1</sup> and have been modified in many different ways. These tents require only a small capital investment and are so convenient that they are the most frequent means of administering the oxygen.

Oxygen is indicated in any condition in which there is anoxemia. Fantus<sup>3</sup> proposes the term "hypoxemia" for oxygen deprivation in the blood and "hypoxia" for oxygen deficiency in the pulmonary alveoli. He feels that in the term "anoxemia" there is a looseness of definition that causes confusion in the minds of most doctors. With these terms in mind, a diagnosis of hypoxia would be an indication for immediate oxygen therapy. Waters, Wineland and Seevers<sup>4</sup> have listed the causes of anoxemia as follows:

1. High metabolic rate due to fever, fear, toxemia and pain.
2. Reduced pulmonary alveolar surface due to a disease or mediastinal compression from position.
3. Poor oxygen carrying power of the blood.
4. Cardiac insufficiency.
5. Obstruction of the respiratory tract due to:
  - a. Wet lung, secretion of mucus, inhaled fluid, vomitus.

3. Yearbook of General Therapeutics, ed. by Bernard Fantus, Year Bk. Pubs., Inc., Chicago, 1934.

4. Waters, R. M.; Wineland, A. J., and Seevers, M. H.: Carbon Dioxid and Oxygen Problems in Anesthesia, *Anesth. and Analg.* 10: 10 (Jan.-Feb.) 1931.

1. Boothby, W. M.: Oxygen Therapy, *J. A. M. A.* 99: 2026 (Dec. 17) 1932.

2. Boothby, W. M., and Haines, S. F.: Oxygen Therapy, *Tr. A. Am. Physicians* 42: 287, 1927; also *J. A. M. A.* 90: 372 (Feb. 4) 1928.

- b. Cord adduction (laryngospasm).
- c. Small parts or tubing or poorly acting valves of the anesthetic apparatus.
- 6. Technique. (Unwise control of anesthetic gases being administered.)
- 7. Respiratory depression.
  - a. Deep ether or chloroform anesthesia.
  - b. High spinal block.
  - c. Central depression, as with opium and derivatives of barbituric acid.

Barcroft<sup>5</sup> on the other hand has classified anoxemia according to type:

1. Anoxicemic. Decrease in the oxygen tension of the blood is the result of pulmonary involvement which interferes with the respiratory exchange—hypoxia. Examples: pneumonia, asthma and severe bronchitis.
2. Stagnant. Oxygen want due to circulatory disturbances, especially of cardiac origin—hypoxemia.
3. Anemic. Lessened capacity of the blood to carry oxygen resulting in decreased oxygen tension.

As the passage of oxygen from the alveolar air into the blood and from the blood stream to the tissues is an act of diffusion, it follows that the greater the amount of oxygen in the alveolar air the greater the amount that will get into the blood. It has also been shown experimentally that if the plasma is sufficiently oxygenated, oxyhemoglobin is not necessary to supply the tissues with the gas. In hypoxia when the blood leaves the lungs it is a mixture of arterial and venous bloods, but it is sufficient to keep the body alive so that even a little more oxygen may turn the tide of defeat into victory. Also, there will be a better chance for a larger amount of oxygen to be taken up by the plasma. The success of our treatment will depend upon our ability to get as much oxygen into the alveoli as possible, to give it early and to maintain the flow until it is no longer needed.<sup>6</sup>

The symptoms of oxygen deprivation will

vary as to the amount and the abruptness of the deprivation. A rapid onset over a short time may cause a lack of consciousness and when the victim wakes up he will be ready to fight any one standing near. If the depth continues, convulsions and death will follow. In cases where the oxygen lack is slowly progressive the patient may not be aware of the dulling of the intellect and senses. The symptoms present may be similar to an overdose of alcohol, such as depression and excitement.<sup>7</sup> There is usually an effort on the part of the respiratory system to compensate by increasing the depth and rate of respirations. This hypernea is followed by a falling off of the rate and volume or Cheyne-Stokes respiration.<sup>8</sup> General nervous symptoms may supervene. The whole body will be affected, even the defensive agencies of the body will also suffer in the general depression.

Pneumonia offers one of the best fields for the use of oxygen therapy. The consolidation and edema in the lungs have so lessened the amount of normal lung tissue that the blood cannot be fully aerated. In order to overcome this deficiency the respiratory mechanism increases the number of respirations and their depth. This added work will soon exhaust the patient that has little reserve strength or when the illness is prolonged. Oxygen helps the patient to carry the load.

Pneumonia patients have been classified into three groups by Evans:<sup>5</sup>

1. A very small group in whom cyanosis is never present throughout the course of the disease;
2. A group in whom cyanosis is present in a moderate degree. Cyanosis disappears when the inspired air contains 40-60% oxygen; and
3. A group in whom there is a varying degree of residual cyanosis even after oxygen has been given at the maximum of the above dosage. In this last group it is felt the oxygen should be increased even though it is given pure. Response to the treatment is a good prognostic sign.<sup>8</sup>

5. Saklad, M.: Oxygen and Carbon Dioxide Therapy, New England J. Med. 207: 1132 (Dec. 22) 1932.

6. Macleod, J. J. B.: Physiology in Modern Medicine, 7th ed., C. V. Mosby Co., St. Louis, 1935.

7. Potts, W. H., Jr.: Oxygen Therapy—Critical Resume, Am. J. M. Sc. 184: 616 (Nov.) 1932.

8. Saklad: Footnote 5.



In partial laryngeal and tracheal obstruction, oxygen inhalations may be of value in saving the strength of the patient until he can be carried to a competent operator. Oxygen has also been found useful following the removal of the foreign body.

There are times in asthma when the oxygen therapy not only relieves but may be life saving. I had a case of this type, unfortunately before an apparatus was readily available. A child of twelve had been having asthmatic attacks over a period of four years. She had been using adrenalin injections for about two years. In this attack she was given repeated adrenalin injections and had had morphine and atropine. She died about twenty minutes after being seen. The spasmodic contractions of the small bronchi did not allow complete aeration of the blood<sup>1</sup> and the patient died of heart failure. Oxygen might have overcome this difficulty and carried the patient through the attack.

In the newborn, Henderson<sup>1</sup> has shown that the addition of from 6-10% carbon dioxide to the oxygen will deepen the inspirations. After the air passages have been cleaned and the baby will not breathe, either from asphyxia or due to the medication that was given the mother, the application of a mask and a few liters of the gas will often cause the baby to take on a rosy hue and cry lustily. The mixture can also be given to premature and atelectatic babies with good results. The equipment need consist of nothing more than a small "D" tank with a yoke, tubing and mask. The gas pressure must be kept low. Special apparatus is available at moderate cost.

Coronary occlusion has shown improvement in from one to three hours after the beginning of oxygen therapy, according to Barach and Levy.<sup>9</sup> It is thought that the oxygen helps maintain the circulation until the heart has had a chance to recover from the shock. A colleague found a great deal of relief in such an attack while breathing oxygen from a mask and portable tank. Anginal attacks may also be relieved by this method. However, all patients will not receive the same benefit.

In poisoning from drugs which interfere with the respiratory exchange, such as carbon monoxide,<sup>2</sup> strychnine, alcohol, ether, barbiturates, nitrobenzene and chloroform, oxygen is of proven value.

Oxygen may be administered by means of a chamber, tent, mask and catheter, and has been given subcutaneously. The chamber will not be available to the general practitioner; the mask is cumbersome, irritates the patient, and must be removed to give food or water; and the subcutaneous method is too slow. As oxygen is not given more than a few times each year, a large amount of money should not be placed in this form of equipment. The gauges and meters manufactured for the profession are made to attach to tanks containing medicinal oxygen. These tanks contain two-thirds the gas and cost twice as much as the commercial tanks and the gas is no purer.

A large part of the equipment can be made or secured at very little cost. An ordinary gauge that is used in welding should be secured. This will fit any commercial tank. To the outlet of the gauge is attached a 500 cc. wash bottle, with a two-hole stopper, by means of two or three feet of rubber tubing. This bottle should be of heavy glass. About 150-200 cc. of water are placed in the bottle. Care must be taken not to fill the bottle too full as the weight of the water will cause a back pressure until a large amount of oxygen accumulates. When the oxygen pressure is sufficient to displace the water, it will blow out the stopper and fill the tubes with water. Glass tubes are arranged so that the inflow is under water. Thus the oxygen is humidified and one can see that the oxygen is flowing through. To the outflow tube four to five feet of tubing carry the oxygen to the tent. In making the tent two pieces of 1 8th inch piping about six feet long are bent into a semicircle for supports. Holes are drilled through the center of these pipes and a bolt inserted to hold them in position. A seamstress can now make a tent of ordinary cotton cloth to fit this frame. For a window an 8 x 10 x-ray film can be cleaned and inserted into one side of the tent. Snaps are provided for removing the window while washing the tent. Having found a discarded gauge, that was secured without

9. Barach, A. L., and Levy, R. L.: Oxygen in Treatment of Acute Coronary Occlusion, *J. A. M. A.* 103: 1690 (Dec. 1) 1934.

cost; my apparatus was secured at an expense of \$2.06. A new gauge can be secured for about \$15.00, not too much to pay for the two lives I feel this apparatus has saved.

If tents are not available and the patient is a small child, a cardboard box can be used. The child is placed in the box and the oxygen is spilled into it. The gas being heavier than air will stay in the box. Dr. Lahey, of Boston, recommends a tent of this type for adults (The Burgess-Collins). This tent consists of a rubberized cloth box kept in shape by an iron frame. A slit is made in one of the long sides and through this the patient's head is inserted. A rubber collar buttoned tightly around the neck minimizes the oxygen loss. The entire top is open. At the head is a box into which ice is placed in order to keep the patient more comfortable. In either the tent or this box an electric fan will aid in cooling the patient. These tents are readily portable, have no moving parts and can be watched by the average individual with very little instruction. The oxygen tank must always be firmly tied to the bedpost as it may fall over and explode.

Another inexpensive apparatus is the nasal catheter. To the outflow tube a glass "Y" is attached and to this by appropriate connections two, ten or twelve F. catheters. In these catheters 4 or 5 extra holes are cut so as to decrease the force of the oxygen stream so as not to irritate the membrane. These catheters are lubricated and inserted into the anterior nares until the tips can just be seen behind the uvula. They must be removed every twelve hours for cleaning. Liquid petrolatum may be instilled in the nose to combat dryness.

The average patient will remain in the tent for three to six days. The rate of flow of the oxygen will depend upon the results obtained. The finger nails should be kept pink. If the patient is removed from the tent and there is a temperature rise of one degree or cyanosis develops he must be replaced in the tent.

Oxygen therapy increases the dangers of fire in the vicinity of the patient—not so much from the oxygen but that combustion is heightened.<sup>8</sup> Lighted matches, cigarettes, cigars, pipes and other inflammable material must be kept away. There must

always be sufficient oxygen on hand and someone must always be present to replace the tanks and see that the flow of the gas is not obstructed.

#### CONCLUSIONS

1. Oxygen therapy has definite indications and is a valuable adjuvant.
2. Oxygen therapy can be given by the general practitioner.
3. The equipment must be readily available for sudden emergencies.
4. A satisfactory armamentarium is described which has a low capital investment.

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#### SOME MOOT QUESTIONS IN OBSTETRICS\*

By  
H. P. HEWITT, B. S., M. D.,  
Chattanooga, Tenn.

The word "obstetrics" probably comes from two Latin words, *ob* and *stare*, which literally mean "to stand before and protect." It would appear, then, that it is the duty of an obstetrician to throw every protection about the parturient woman; yet we have 25,000 mothers to die annually from childbirth. Five thousand of these deaths are due to toxemia of pregnancy, which, for the most part, is preventable. Pregnancy is defined as a normal, physiologic process by which the race is multiplied, but I believe that Mauriceau's definition is more nearly correct at the present date. It is: "A disease of nine months." If we will keep this definition in mind we will do more than is customary for the benefit of the patient. On the other hand if we think of pregnancy as a normal physiologic process only, we shall be indifferent in the matter of watchful care.

Every physician should first of all be honest with himself, and with the patient too. In the question of early diagnosis of pregnancy, it is practically impossible under twelve weeks of gestation to tell if a patient is pregnant. In case a patient has not proceeded to this point, the physician should say to her that if she is desirous of knowing whether she is pregnant an Aschheim-Zondek test can be run and the

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\*Read before the Northeastern Division of the Association, Scottsboro, October 15, 1935.



results known in 36 hours. This is more satisfactory to a patient than saying that she is or is not pregnant and leaving it to time to tell whether you were right or wrong.

#### PRENATAL CARE

The biggest advance in obstetrics in the past twenty-five years has been the recognition of the importance of prenatal care. Every expectant mother is entitled to this service, which includes a complete physical examination, urinalysis, blood pressure, weight, and blood Wassermann; and being seen every two weeks until the last month, then once a week. If indications arise, the patient should be seen as often as necessary. On subsequent examinations, the patient should be weighed, the blood pressure taken and a urinalysis run. All patients should hold their weight within 25 pounds gain over the normal. All mothers should be informed as to the danger of traveling and of violent exercise. They should be enlightened also on the fallacy of folklore in obstetrics; such as, the baby is born with bare feet because the mother was frightened by a bear.

The tetanoid syndrome is a definite chain of symptoms, as follows: Softening of the teeth, nervousness and irritability, sleeplessness, slight edema of the lower extremities, and muscle cramps in the calves of the legs and thighs—due to calcium deficiency and not from pressure of the baby. It is relieved by the administration of dicalcium phosphate with vitamin D.

About 50% of women have simple nausea and vomiting. In the majority of cases they are due, I believe, to an unbalanced nervous system. The patient is not ready to have a baby. On our charity service at Baroness Erlanger Hospital, we rarely, if ever, have a complaint from colored patients in regard to these distressing manifestations. If the patient can be reassured that she will not have undue trouble in carrying her baby and of being delivered, 50% of her symptoms will be cured and the remaining 50% can be controlled by the use of an effervescent bromide. The patient should be put on a high carbohydrate diet, given carbonated drinks, and fed something every 30 minutes to an hour. This may include coca cola and ginger ale, not more

than 2 oz. at a time. For water use crushed ice. Have the patient take her bromide before arising in the morning, and take a tablespoonful of cream of wheat with XX cream and sugar. Oatmeal, rice, crushed bananas, peanut brittle, pop-corn, Hershey chocolate bars, with or without almonds, saltine crackers, potato chips and vanilla wafers may also be given. Instead of letting the patient have three meals a day, let her have one every hour. Corpus luteum extract, hypodermically, one ampule every other day, may have some advantage other than a psychic effect, due to the fact that it contains vitamin C.

X-ray pelvimetry in obstetrics is very promising today. I hope that a technique can be perfected whereby we may be able to forecast the type of labor an individual will have. At present, we are unable to x-ray the amount of molding the head will do; or the regularity, frequency and force of uterine contractions. At present, the x-ray is of value in diagnosing pregnancy after four months, death of the fetus in utero, multiple pregnancy, and abnormalities of the fetus—hydrocephalus, for example.

#### COMPLICATIONS OF PREGNANCY

Tuberculosis in pregnancy is a very serious condition. I feel that all expectant mothers who have had an active case within the past two years should be aborted within the first three months of gestation. If seen late, after the fifth month, I would advise that the patient be permitted to continue to term. The uterus presses against the diaphragm in the last months of pregnancy, thereby acting as a splint to and giving rest to the lungs with some temporary improvement. Immediately following delivery, however, the patient begins to fail perceptibly and rapidly. All babies born of tuberculous mothers should be removed from further contact with them.

Heart disease in pregnancy is not so serious a complication as formerly thought. The shorter the interval between the onset of the heart lesion and the beginning of pregnancy the more serious is the combination. As a whole, though, patients with organic lesions go through gestation and labor with remarkable safety, averaging about 97%. The patient who has decompensation and is pregnant should be put to bed for

rest, and the type of delivery probably best is a cesarean section, regardless of parity of the patient.

Toxemias of pregnancy, as a whole, are preventable, but not all patients can be kept from becoming toxic. I do believe, however, that, with proper supervision, eclampsia can be prevented to a great extent. I consider blood pressure of 90 to 110 over 60 to 80 within normal range. If the patient's blood pressure goes up over 20 points it is to me a sign of developing toxemia. I think, also, that a systolic blood pressure over 130 should be a warning of beginning toxemia. If the toxemia is late in pregnancy, and the fetus is viable, the patient should be put to bed at absolute rest for one week with forced elimination and limited diet. If she does not improve and is a primipara, I think the treatment of choice would be a cesarean section under local and gas. If she is a multipara, who has had previous deliveries with no difficulty, the treatment of choice would be combined medical and surgical induction, as follows: Castor oil and quinine—20 grs. After the last dose of quinine the membranes are ruptured artificially.

Gonorrhea and Syphilis: If the patient has acute gonorrhea she should be treated regardless of the period of gestation. A patient who desires children and has syphilis should have a year's course of antiluetic treatment before conceiving. During pregnancy she should be given neoarsphenamine, not larger than .45 gram doses, alternating with bismuth in the hip. I do not believe that mercury is a good drug to use in the prenatal state.

Varicose veins and hemorrhoids can be injected up to the seventh month without undue risk. Extraction of teeth and filling of teeth can be done with impunity throughout pregnancy. Patients who are pregnant and develop malaria should be treated since the malaria will do the mother and fetus more harm than the quinine. Acute appendicitis should have surgery at once, regardless of the stage of gestation. Premature separation of the placenta before the onset of labor should have cesarean section, and usually is found in patients who are mildly or moderately toxic. However, if the patient is in labor and partially dilated and a multipara she may be treated conserva-

tively. In placenta previa centralis, regardless of the parity of the patient or whether labor has begun, the treatment of choice is cesarean section.

Pregnancy in diabetics is not common but does happen, and a large percentage of these patients have deformed babies. All should be under the care of an internist for treatment of the diabetes.

Since we are unable to determine the exact date of conception and how many days are required for each individual fetus to mature, I seriously doubt that there are many post-mature cases of pregnancy. In the absence of indication I feel that induction of labor is not justified. However, where termination of labor seems to be indicated, I believe the safest procedure is combined medical and surgical induction, the contra-indication being a primipara with a long cervix or a generally contracted pelvis, or an individual who has had a difficult previous labor.

#### MANAGEMENT OF LABOR

In my opinion all parturient women should have an analgesic. An insensible labor may be attained, but a painless one is not to be hoped for. Our aim is to produce an amnesia. I feel that scopolamine and nembutal are a safe combination for both mother and child. When properly executed, either rectal or a vaginal examination may be made during labor, but an improperly done rectal examination is worse than an improperly done vaginal.

All lacerations attending delivery should be repaired. This includes patients delivered in the home. Massaging the uterus immediately after delivery of the child is a very dangerous procedure because of the possibility of embolism. In uterine inertia, before the second stage of labor, the treatment of choice is morphine and not pituitrin, as the uterus is already tired out and needs rest and not stimulation. Persistent occiput posterior positions are still a bugbear to men who do obstetrics, but the biggest difference between anterior occiput and posterior occiput positions is time. Ninety per cent of occiput posterior positions will rotate under analgesia, if patience is exercised. The remaining 10% call for an operative delivery, which may be accomplished by one of three procedures;



viz., internal podalic version and extraction, Scanzoni maneuver, or manual rotation according to the Pomeroy technique, choosing the method one is most capable of performing.

#### POSTPARTUM CARE

Patients who have had a spontaneous delivery and those cases that have less than a second degree tear may be put on a regular diet immediately after delivery. An enema should be given on the third day, and before if needed, and every other day thereafter. I see no reason to give castor oil since it is likely to do the nursing baby much harm. Abdominal binders for the first few days following delivery are for the patient's comfort only. They will not produce a flat firm abdomen. The only thing that will restore tone to the abdominal muscles is exercise. Each patient should be kept in bed until the uterus has become a pelvic organ, regardless of whether it is the tenth day or the twentieth day following delivery.

In stillborn cases where it is desirable to dry up the mother's breasts I use one ampule of camphor oil, intramuscularly, morning and evening for six doses. In the past five years I have not had an abscess following this treatment, and the patients have very little discomfort from the breasts.

Our puerperal infections at present are still too high, and I believe that the majority of puerperal sepsis is due to exogenous origin, and the most satisfactory treatment is general supportive measures with frequent small, whole-blood transfusions.

#### POSTPARTUM EXAMINATION

It is just as important for the patient to be examined at the end of six weeks after delivery as it is before and during pregnancy since conditions may exist that will later give rise to serious complications. It is physiologic for the uterus to be in retroversion before puberty and after the menopause. Seventy-five per cent of women as a whole have varying degrees of retroversion without any symptoms whatsoever. It is good treatment though to insert a Smith-Hodge pessary in all patients who have third degree retroversion following delivery since a second degree retroversion is more desirable than a third, and also aids complete involution of the uterus. All eroded cervixes should be called erosions of the cer-

vix and not ulcers. Ulcers of the cervix are rare. All erosions should be cauterized following delivery, thus aiding, perhaps, in preventing carcinoma of the cervix.

The term "birth control" is a misnomer. We do not try to control births; our aim is to control conception. I feel that all patients who have just had a baby should be given contraceptive advice, since it has been proven that the most hazardous child the mother can have is her first one, and that the hazard increases after the fourth baby. The eighth child as a rule is just about as hazardous as the first one. The most satisfactory method of contraception today is the mechanical block, but it is only about 98% perfect. The so-called safe period method has not been used sufficiently long to permit of a fair evaluation. However, it has been proven in the monkey that ovulation occurs anywhere from the eighth day to the twentieth day after the beginning of menstruation.

The above remarks are not new in obstetrics. My only desire was to reiterate a few points that come up in the everyday practice of obstetrics.

504 Medical Arts Building.

## TREATMENT OF SECONDARY MUSCULAR DISTURBANCES WITH AMINOACETIC ACID

### A PRELIMINARY REPORT

By  
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And  
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The orthopedic surgeon often sees patients who have a generalized muscular weakness for which no adequate cause has been found. These individuals may have had a recent acute infection; or they may have a definite primary disease condition such as hyperthyroidism, hyperinsulinism, peripheral neuritis, or a chronic vascular disease, which is probably directly responsible for a cutting down of the contractile powers of the muscles as a result of disturbed muscle cell metabolism. Most of these patients will demonstrate a high percentage of creatine in the urine, suggesting the metabolic origin of their myopathy.<sup>1</sup>

1. Powis, F., and Rapier, H. S.: *Biochem. J.* 10: 363, 1916.

Almost all primary myopathies are accompanied by a higher percentage of creatine in the urine than is consistent with the protein intake.<sup>2,3,4</sup> This would indicate that the muscles are unable to take up as much creatine as is normally absorbed. If these patients are given 10 to 30 gms. of aminoacetic acid daily, an increase in the creatinuria frequently results. Considerable improvement in muscle tone has been observed in those cases where this initial increase has receded after a few weeks, while no improvement results in those cases in which no increase occurred, or in those in which the increase was less than 50% above that of the control run before the therapy was started.<sup>5</sup> Experimental proof as to why this occurs is lacking at the present date.<sup>6</sup>

Aminoacetic acid, more commonly known as glycocoll or glycine, is a white powder, pleasant tasting, prolonged in its action, and the most assimilable of all the amino acids.<sup>7</sup> Like epinephrine, aminoacetic acid probably stimulates the sympathetic system, which in turn, probably tends to enable the muscle cell to more easily resynthesize creatine phosphate from creatine and phosphoric acid. In some way, the decomposition of this product within the cells is probably connected with carbohydrate metabolism in supplying the energy of contraction for these cells. Ephedrine, given orally,<sup>8</sup> has a similar action to epinephrine

although slightly more prolonged. Aminoacetic acid produces a much greater prolonged action than epinephrine or ephedrine.

From these facts the logical deduction follows that secondary myopathic disturbances of metabolic origin will improve under aminoacetic acid therapy.<sup>9</sup>

Allinson and his associates<sup>10</sup> recently reported that they had administered aminoacetic acid in a case of toxic peripheral neuritis. An initial increased creatinuria occurred which decreased as the patient's condition improved. W. Gros<sup>11</sup> has reported a case of an individual with exophthalmic goiter and a creatinuria to whom he administered aminoacetic acid. The creatinuria increased over 100% and no change in the basal metabolic rate occurred. He concluded that a syndrome of disturbances in muscle metabolism caused by similar anatomic and functional changes might exist in disorders having different clinical aspects. Several workers at the present time are experimenting with the action of aminoacetic acid in congenital spastic paralysis.

We became interested in muscular disturbances secondary to primary disease conditions because so many were referred for orthopedic consultation. Up to the present time we have used aminoacetic acid in five such cases.

#### CASE REPORTS

Case 1. D. L. E., white male, aged 57, business executive. Chief complaint, chronic fatigue. After thorough workup a diagnosis of chronic nephritis with a hypertension of 170/105 was made. The muscles were flabby and definitely weak. A creatinuria was demonstrated. Aminoacetic acid in dosage of 30 gms. daily was given in addition to more specific therapy. After 48 hours the creatinuria increased over 100%. At once, the patient began to feel better and the creatinuria gradually decreased as he improved symptomatically. At the end of three weeks he felt much stronger. There was no marked change in the blood pressure during the entire period of administration of aminoacetic acid.

9. Hench, P. S.: Consideration of Muscular Pain and Fatigue With Note On Glycine: Preliminary Comment, Proc. Staff Meet., Mayo Clin. 9: 603 (Oct. 3) 1934.

10. Allinson, M. J. C.; Henstell, H. H., and Himwich, H. E.: Influence of Glycine On Creatinuria in Peripheral Neuritis, Am. J. M. Sc. 188: 560 (Oct.) 1934.

11. Gros, W.: Über den Einfluss von Glykokoll auf die Kreatinurie bei Morbus Basedow, Arch. f. Verdauungskr. 57: 177 (March) 1935.

2. Tripoli, C. J.; McCord, W. M., and Beard, H. H.: Muscular Dystrophy, Muscular Atrophy, Myasthenia Gravis and Strabismus; Clinical and Biochemical Studies of Effects of Amino Acid Therapy, J. A. M. A. 103: 1595 (Nov. 24) 1934.

3. Light, A. B., and Warren, C. R.: Creatinuria Among Adolescent Males, J. Biol. Chem. 104: 121 (Jan.) 1934.

4. Luck, J. M.: Metabolism of Amino Acids, J. Biol. Chem. 77: 13 (April) 1928.

5. Milhorat, A. T.; Techner, F., and Thomas, K.: Significance of Creatine in Progressive Muscular Dystrophy, and Treatment of This Disease With Glycin, Proc. Soc. Exper. Biol. and Med. 29: 609 (Feb.) 1932.

6. Harris, M. M., and Brand, E.: Metabolic and Therapeutic Studies in Myopathies, With Special Reference to Glycine Administration, J. A. M. A. 101: 1047 (Sept. 30) 1933.

7. Starling, E. H.: Principles of Human Physiology, Lea & Febiger, Philadelphia, 1920.

8. Edgeworth, H.: Effect of Ephedrine in Treatment of Myasthenia Gravis, J. A. M. A. 100: 1401 (May 6) 1933.



*Case 2.* T. L. P., white male, aged 8, schoolboy. Chief complaint, weakness following scarlet fever. This boy's period of quarantine following his illness ended five weeks previous. He demonstrated a definite muscular weakness, although he weighed 70 pounds, approximately what a normal boy of eight years should weigh. The urine was negative except for creatine. Thirty grams of aminoacetic acid daily was prescribed. After 48 hours, the creatinuria increased over 100%, and within the next few days he was decidedly improved. At the end of four weeks his mother reported that he was apparently normal in every way. A 24-hour specimen at this time revealed a creatine content approximately the same as on the first analysis. The aminoacetic acid was discontinued at the end of 6 weeks. At eight weeks the urine showed no creatine and the boy continues to be apparently normal.

*Case 3.* A. S. L., white female, aged 24, housewife. Chief complaint, easy fatigability. This patient had given birth 12 weeks previous to a 7½ pound baby. She had bled profusely during delivery and had developed a marked anemia. Subsequently, she had taken liver extract and an iron preparation constantly and although she weighed 127 pounds with a height of 62 inches and had a hemoglobin of 80%, she still felt extremely weak. She had not nursed the baby since the second week following delivery. Examination was negative except for a creatinuria. All previous medication was discontinued and she was put on 45 gms. aminoacetic acid daily. After 48 hours the creatinuria increased 60%. Three days later she felt much stronger and at the end of three weeks the creatinuria had receded to the figure noted in the first specimen. In four weeks she was symptom free and able to accomplish her routine duties without discomfort. The hemoglobin at this time was 85%. The aminoacetic acid was discontinued after the fourth week. At the end of six weeks the urine showed no creatine, and the patient continued to improve.

*Case 4.* F. L. R., white female, aged 32, housewife. Chief complaint, easy fatigability. This patient, three months previous, had been told by a physician that she had a mild hyperthyroidism. She had refused a proposed subtotal thyroidectomy and since had been unable to do her household duties on account of gradually increasing weakness. Examination did not show her to be unusually nervous. Her weight was 132 pounds, height 66 inches, pulse 88, blood pressure 123/82. There was a slight enlargement of the thyroid gland. The basal metabolic rate was plus 20. The urine demonstrated a creatinuria. Forty-five grams of aminoacetic acid daily was prescribed. After 48 hours the creatinuria increased 75%. At this time she stated that she felt better than she had at any time during the past year. At the end of three weeks the creatinuria had decreased to the control figure. The therapy was continued for eight more weeks and at this time she weighed 133 pounds. The pulse rate was 84, and the blood pressure 125/80. The basal metabolic rate was still plus 20. She stated that she was completely recovered and she did appear to be feeling much stronger.

At present, she is still under observation for further development of symptoms of hyperthyroidism.

*Case 5.* C. L. M., white female, aged 26, housewife. Chief complaint, easy fatigability. This patient had not lost any weight but during the previous year had been gradually growing weaker. She had a feeling of drawing in her arms and legs, frequent severe headaches, tenderness in the epigastrium, an ungovernable temper, frequent periods of mental depression and fainting spells. She always felt better for about an hour after meals. She had been diagnosed six months before as being psychasthenic. Her weight at the time of examination was 116 pounds, height 64 inches. Her fasting blood sugar was 0.050%. At the 5th hour of the glucose tolerance test her blood sugar was again 0.050%. On these findings a diagnosis of hyperinsulinism<sup>12</sup> was made. A low carbohydrate, high fat diet, along with rest in bed, was advised. At the end of two weeks she was comfortable but seemed weaker than ever. A urine specimen at this time demonstrated a high creatine content. Aminoacetic acid in 45 gms. daily dosage was added to the diet and after two days the patient began to feel stronger. The creatinuria was up 100% at 48 hours. After one more week in bed, she was allowed up and seemed perfectly normal. At the fourth week the creatinuria had receded to the control figure. She continued to take aminoacetic acid for four weeks and at that time she had no symptoms. She has remained comfortable since on her diet.

In such an intangible condition as a secondary muscular disturbance, no definite conclusions can be drawn from this small number of cases. However, we believe that this subject has possibilities, and, when worked out thoroughly in a large series, the following conclusions will be substantiated.

## CONCLUSIONS

1. That aminoacetic acid is most likely of value in cases of primary muscle disturbances.
2. That there may exist a syndrome of secondary muscular disturbances in disorders with different clinical aspects.
3. That secondary disturbances in muscle metabolism are ameliorated by the administration of aminoacetic acid.
4. That the influence of aminoacetic acid therapy is probably solely confined to muscle metabolism.

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12. Harris, S.: Diagnosis of Surgical Hyperinsulinism, *South. Surgeon* 3: 199 (Sept.) 1934.

## PAIN AND ITS RELIEF\*

By  
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Pain is the most common complaint we hear. It is at the same time the physician's greatest aid in securing cooperation. Without pain or discomfort it is the exceptional patient that will carry out advice explicitly. Pain is responsible for much agony and suffering, yet it saves more lives than any other phenomenon. Very few fatalities result from it while untold myriads are saved by heeding its red flag. It is often the only constant symptom, as in appendicitis. If even mild pain were an invariable symptom of such malignant diseases as tuberculosis, cancer, syphilis and heart disease many deaths would be prevented.

What interests us most is the relief of pain. Patients are more grateful for the relief of severe pain than for anything else the physician can do for them. The standby in years gone by has been the opiates. They are still indispensable, but in retrospect we can see many abuses of these great boons to mankind. The more rational use of the opiates in the last two or three decades has been due to several causes. Some of the more important are: (1) new knowledge concerning the causes of pain, in which endocrinology, allergy and neurology play no small part; (2) new drugs, primarily the barbitol and glandular products; (3) education of the physicians and laity of the dangers of addiction. However, few physicians would be sufficiently hard-hearted to practice medicine without the opiates. They have been used by priest and physician since the earliest records we have of man, although the poppy as such is not mentioned either in Egyptian or Hebrew literature. Paracelsus introduced tincture of opium, and it was not until 1861 that Serturmer isolated morphine. Since that time there have been many attempts to make substitutes or improvements in pain-relieving drugs. Two of the most recent and best known preparations are pantopon and dilaudid. Pantopon is a combination of the alkaloids of opium, and is supposed to be less toxic among other virtues; while dilaudid is a German preparation that

claims to be less constipative and less habit forming. While both of these drugs are useful they have not appreciably endangered the popularity of morphine.

The most common pain, and the one that accompanies the greatest number of ailments, is headache. However, we shall consider headache per se, or migraine. In the endocrine field various drugs have been used, particularly theelin, one ampule every other day for one week before regular menstrual periods in those cases where the two seem to be associated. Pituitary extract (whole gland extract, 0.1 to 1 gr. once or thrice daily, one hour after meals) sometimes prevents attacks. Miller and Raulston reported twenty-five cases treated with peptone. An initial dose of 5 minims of Armour's 5% peptone solution is given intravenously. This is followed every three or four days by repeated injections, increasing the amount of the peptone solution 5 minims each dose until maximum doses of 25 minims are reached. They report 36 per cent improved greatly, 48 per cent moderately improved, and 16 per cent not improved.

Regarding the use of drugs for the relief of migraine, many have been tried but none is specific. Among them the two which have received the most credit for affording relief are fluid extract of *Cannabis indica* in the largest dosage tolerated, starting with two minims every four hours, and sodium thiosulphate 15 grains intravenously. Various sedatives, salicylates, and caffeine have been used, but on the whole they have not been successful. Morphine is to be avoided, or used only as a last resort because of the danger of addiction.

After all other palliative measures have been tried and failed, ligation of the middle meningeal artery on one or both sides is being done today. In the few reported cases that were operated on, the ligation effected relief from the severe headaches. Abraham Ettleson of Loyola University says that the operation, which is only slightly more than a subtemporal decompression, can be done under local anesthesia, and is a relatively simple and short procedure, practically devoid of risk.

Trifacial neuralgia is another form of severe pain that is not uncommon. All other causes of pain in the face must be looked

\*Read before the February 1936 meeting of the Etowah County Medical Society, Gadsden.



for and excluded before diagnosis of *tic douloureux* is made. For temporary relief of pain deep inhalation of 20 to 30 drops of trichlorethylene, poured on a piece of gauze while the patient reclines on one side is recommended. This drug acts selectively on the fifth nerve. Almost all other drugs, including morphine, are worthless in the treatment of this affliction.

Alcohol injection into the nerve trunks was the best known method of treatment until surgery began to be employed for the relief of facial pain. Alcohol injection offers only temporary relief, the pain recurring in from six months to a year. The chief danger, arising from the unintentional injection of the gasserian ganglion, is corneal ulceration. This can be recognized early by the steamy ground-glass appearance of the cornea, with circumcorneal injection. If this is observed a drop or two of atropine in the eye with closure of the lids by a firm bandage for twenty-four hours may prevent further ulceration. Ettleson says that surgery offers the only permanent relief from trigeminal neuralgia. He advocates the avulsion of the sensory root of the gasserian ganglion, also referred to as subtotal resection of the root, or gasserian neurectomy. He says the surgical risk from this operation is small, but that the patient should be advised of the possibility of corneal ulcers which may so resist treatment that enucleation may have to be done.

One of the greatest banes of the practicing physician is the patient with lumbago or sciatica. There is probably no other complaint with so many actual causes so well obscured. There may be several anatomic variations such as sacralized fifth lumbar processes, spina bifida, abnormal articulations, spondylolisthesis, and static factors. Or there may be genito-urinary, gynecologic and neurologic conditions. Disease of the prostate and seminal vesicles should be thought of when pain is present in the lumbo-sacral region. In women static backache often cannot be distinguished from that due to pelvic disorders. A careful examination will eliminate many radical intrapelvic operations. Such neurologic conditions as tabes, cord tumors, diseases of the cord itself, and multiple sclerosis may be etiologic factors. Backache and sciatic pains are very often due to the presence of an actual

osteoarthritis of toxic or infectious origin. Pain along the course of the sciatic nerve occurs in both the sacro-iliac and lumbo-sacral lesions. Gaenslen's sign for sacro-iliac lesions is very reliable. His sign is that with hyperextension of one hip with the opposite knee and hip acutely flexed to fix the lumbar spine, including the lumbo-sacral joint, there is pain present only in the sacro-iliacs, ruling out lumbosacral cases.

The etiology of any given case will govern the treatment. This may be either conservative or operative.

All acute painful cases should be put at rest on a rigid bed, and some form of physical therapy, such as heat and, in some cases, massage applied. Large doses of salicylates are beneficial. A convenient and, at times, an efficient form is salsocol (Breon) 10 or 20 cc. intravenously every two to four days. Head and pelvic traction or a plaster cast may be necessary to relieve muscle spasm in a certain number of cases. All foci of infection should be carefully sought and removed. In sacro-iliac strains, without extreme pain or muscle spasm, a firm adhesive plaster strapping usually gives immediate relief.

Relief from sciatica is claimed by some by injecting the nerve with sterile water. The site of puncture is midway between the ischial tuberosity and the greater trochanter of the femur. The needle is inserted until it pierces the sheath of the sciatic nerve into which is injected from 50 to 100 cc. of sterile water. This distends the sheath and causes cessation of pain for variable lengths of time in some cases.

Hertzler has met with success in at least 30 per cent of cases treated by injecting the nerve with one ounce of 1 per cent quinine-urea hydrochloride.

In the many cases not relieved by conservative measures, surgery becomes necessary. These are the chronic cases in which there is definite evidence of disease or deformity. For the lumbo-sacral arthrodesis the Hibbs technic has been quite generally used with the addition of two large tibial grafts. Ritter, of St. Luke's Hospital, says that the Smith-Peterson operation is adaptable to one or both sacro-iliacs, but not to the combined triple arthrodesis. For this he advises the extra-articular operation on

the sacro-iliacs.

The other severe and obstinate type of pain to be discussed is that associated with the menses. Dysmenorrhea is usually divided into two types, primary and secondary. The latter is caused by pathologic conditions in the pelvis, usually uterine fibroids, endometritis, ovarian cysts, or salpingitis. Surgical correction of the pathological disturbance usually cures the menstrual pains. Primary dysmenorrhea, on the other hand, is not associated with any abnormality in the pelvis and its treatment is one of the baffling problems with which physicians have to deal. Almost every type of drug has been employed to relieve the pains of primary dysmenorrhea, but not one has given uniform success. Opium will of course relieve this pain, but its use is dangerous because of the great likelihood of inducing the habit. Codeine is preferable to morphine, and although it is less completely analgesic it is also less constipative, less nauseant, and less depressing to general metabolism. The danger of codeine habituation is practically nil.

Alcohol is a useful and justifiable analgesic in dysmenorrhea. Its use is frowned upon by many gynecologists, and there is some slight danger of habit formation. However, not many of our patients are so poorly balanced that they will become habitual tipplers if we advise them to take a toddy two or three times daily for two days each month.

In 1911, Novak, of Vienna, advocated the use of an antispasmodic. He used pills, each containing 1/120 grain of atropine sulphate, three grains being given each day, beginning just before the expected onset of menstruation. Thirty-eight cases were reported, in thirty of which the results were distinctly favorable.

Organotherapy may in the future help solve this problem, but up to the present there have been many conflicting reports, and the average results have not been brilliant. There are many ovarian and pituitary products on the market today, and without question they have a place in the treatment of primary dysmenorrhea. Many cases respond to their administration and many do not. The substances most commonly used are whole ovary extract and anterior lobe substances.

Because the exact etiology of dysmenorrhea is still unsettled, treatment in most cases is empiric and unsatisfactory. Greenhill, of Cook County Hospital, says that for those cases who are not helped by medication, physiotherapy, psychotherapy, dilatation and curettement and other measures, resection of the superior hypogastric plexus yields excellent results because in a large majority of cases instant relief is obtained.

The striking and encouraging feature in the ailments discussed here is that surgery has come to the rescue in obstinate cases. After other measures fail it is the exceptional case that can not be promised relief by surgery instead of going through life in misery from pain or addiction.

## ALABAMA'S EIGHTY-NINE YEARS OF MEDICAL ORGANIZATION

### A BRIEF HISTORY OF THE ASSOCIATION\*

By

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Montgomery, Ala.

#### THE ASSOCIATION BECOMES THE BOARD OF HEALTH

The plan of a general system of Boards of Health for Alabama, submitted to the Association and endorsed by it at the annual session in Huntsville in 1872, again endorsed by the unanimous vote of the Association in Tuscaloosa in 1873, became law February 19, 1875. "Be it enacted by the General Assembly of Alabama," said the statute, "That The Medical Association of the State of Alabama, organized in accordance with the provisions of the constitution which was adopted by said Association at its annual meeting in the City of Tuscaloosa in March 1873, be and is hereby constituted the Board of Health of the State of Alabama . . . That the County Medical Societies in affiliation with The Medical Association of the State of Alabama . . . are hereby constituted Boards of Health<sup>1</sup> for their respective counties . . . That no board of health, or advisory or executive medical body of any name or kind, for the exercise of public health functions, shall be established by authority of law in any coun-

\*In three installments. The first appeared in the March Journal; the last will constitute a part of the May issue.

1. By an Act of the Legislature, approved September 29, 1919, the Board of Censors of the County Medical Society, rather than the Society as a whole, was constituted the County Board of Health.



ty, town or city in this State, except such as are contemplated by the provisions of this act, the object of this prohibition being to secure a uniform system of sanitary supervision throughout the State."

THE ASSOCIATION ACCEPTS THE RESPONSIBILITY "In order to facilitate the action of the Association in reference to this matter," set forth the Board in its report of 1875,

Association in the discharge of its functions as Board of Health of the State." In 1877 this body, with the original Board, became the Board of Censors and Committee of Public Health.

COUNTY MEDICAL SOCIETIES CHARTERED Among County Medical Societies first to apply for a charter, authorized by the parent body in 1874, were those of Autauga, Butler, Dallas (which succeeded the Selma Medical Society in 1874), Hale, Perry and Talladega in 1875; Lowndes, Mobile, Morgan, Sumter and Walker in 1876; Elmore, Jefferson, Lamar, Lawrence, Limestone, Madison,



SAMUEL WALLACE WELCH  
President  
1907-1908  
State Health Officer  
1917-1928



WOOTEN MOORE WILKERSON  
President  
1909-1910

"we have prepared the following resolutions:

"Resolved, That The Medical Association of the State of Alabama hereby accept for themselves and for the County Medical Societies under their jurisdiction the provisions of an act entitled 'An Act to Establish Boards of Health in the State of Alabama,' and approved by the Governor on the 19th day of February, A. D. 1875; and will endeavor to discharge the duties assigned to them in said act in good and with earnest purpose, to be of service to the people of Alabama."

FIRST COMMITTEE OF PUBLIC HEALTH Concurrently, and by ordinance of the Association, a State Committee of Public Health was created, composed of Drs. George A. Ketchum, Mobile; Edward A. Semple, Montgomery; Edmund P. Gaines, Mobile; Clifford D. Parke, Selma; and S. D. Seelye, Montgomery, to be "the supervisory and immediately responsible agents of the

Marengo, Monroe, Shelby and Tuscaloosa in 1877; and Barbour, Blount, Etowah, Montgomery, Pickens, Pike, Randolph, St. Clair and Wilcox in 1878.

#### THE SECOND MEDICAL PRACTICE ACT

These essential things having been encompassed, the Association and its individual units were prepared to take a second step in the direction of an enduring structure dedicated to the people they desired to serve. A satisfactory medical practice act was needed, not solely by those who wished to uphold the finest traditions of the profession but by the citizenry, as well, who could not always distinguish the prepared from the unfit. Yet, in its efforts

to protect, the Association realized it would have to guard against possible misinterpretations of motive. Self would need to be effaced as far as possible. Indeed, "we ought," said the Board in 1875, "to make it an inflexible rule *never to seek to influence the enactment of laws that are for our exclusive benefit*. Let us ask nothing of the General Assembly which is not quite as

the several County Medical Societies as the authorized Boards of Medical Examiners; and the provision that the standard of qualifications required of persons desiring to practice medicine should be such as would be determined by The Medical Association of the State of Alabama.

Commenting on the adoption of the Constitution of 1873, the creation of the State Board of Health and the passage of the Medical Practice Act, the Board of Censors said, in rendering its report to the Association in annual session, Birmingham, April 10-12, 1877, "we have organized the medi-

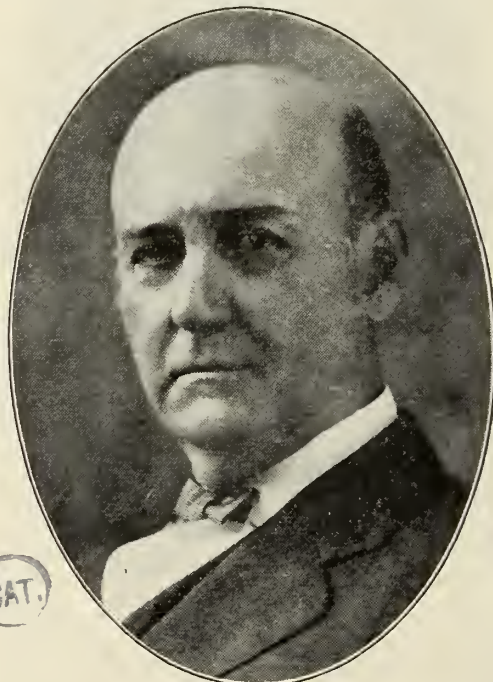


WYATT HEFLIN BLAKE  
President  
1910-1911

much for the advantage of the general public as for the profession of medicine."

This rule of practice found its just reward in the enactment of the State's second Medical Practice Act, February 9, 1877, the culmination of earnest effort on the part of the Association over a number of years. It specified that no person excepting those proposing to practice some irregular system of medicine would be permitted to practice medicine in any of its branches or departments unless a certificate of qualification had been obtained from an authorized Board of Medical Examiners. Even irregulars found it necessary to procure a diploma or certificate of qualification in anatomy, physiology, chemistry, and the mechanism of labor.

Of greater importance, however, was the designation, in the law, of the State Board of Censors and the Boards of Censors of



ROBERT S. HILL  
President  
1913-1914

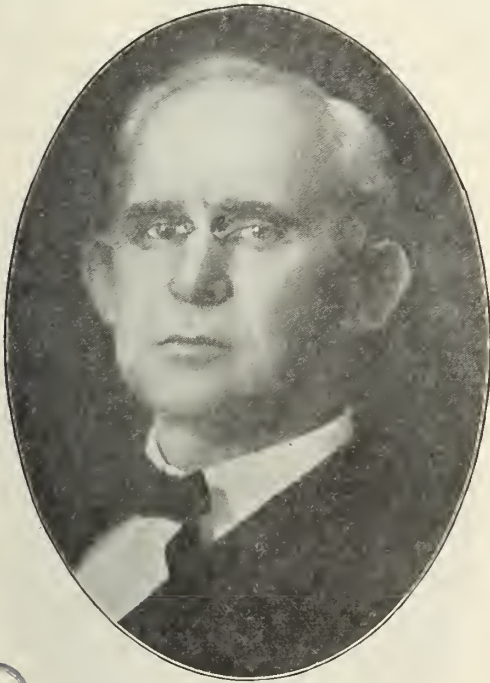
cal profession of the State in a way that will enable it to exercise the largest and the wisest influence amongst our people and in our legislative councils; . . . we have obtained the recognition of the Association as the accredited agent of the State in the administration of the statutes in relation to public health; and . . . the Association has been invested by the State with privileges and powers which make it possible, for the first time in the history of American legislation, for the medical profession itself to determine the qualifications of its own members."

How fitting it was then that the motto of the Association, *Nos Etiam Speravimus*



*Meliora*, should have been suspended, at this meeting, over the chair of the President, Dr. Edward D. McDaniel, of Camden.

It was at this Birmingham meeting, too, that "at 8 P. M.," on the opening day, according to the *Iron Age*, "the hall was filled with the intelligence and beauty of our city. Sweetest music, artistically rendered, contributed greatly to the pleasure of all pres-



HENRY GAITHER PERRY  
Treasurer  
1898-1915  
Secretary  
1915-1923

ent. After prayer, Dr. Jordan introduced . . . Dr. E. H. Fournier of Mobile, who delivered the annual oration . . . The compliment paid our young city was duly appreciated." And: Next morning "at 8 o'clock the South and North Road placed at our service an engine and two elegant passenger coaches, in which the profession rode down to Oxmoor, and spent until 9:30 o'clock in examining the extensive preparations there made for melting into pig-iron the crude ore . . . On the return to Birmingham, the power of the waterworks was shown, by its forcing a stream of water higher than the top of the First National Bank building—which is three stories high, with an ornamented roof—no other force being used than the pressure of the water."

In the year that Dr. Peter Bryce was

President of the Association, meeting in Eufaula, April 9-11, 1878, County Medical Societies numbered 30. Familiar family names appear among their officers, as, for example: Dr. James J. Winn, President of the Board of Censors in Barbour; Dr. C. H. Franklin, Secretary of the Society in Bullock; Dr. J. C. Kendrick, President of the Board in Butler; Dr. John P. Ralls, President of the Board in Etowah; Dr. E. H. C. Bailey, President of the Marengo Society; Dr. R. D. Webb, Secretary in Sumter; Dr. J. A. Goodwin, President of the Board in Walker; and Dr. J. Paul Jones, Secretary in



JACOB U. RAY  
Treasurer  
Since 1915

Wilcox. In the succeeding year the number of Societies had increased to 35—Choctaw (Vivian P. Gaines, President of the Board), Clay, Greene, Macon and Tallapoosa being the accessions.

#### FIRST APPROPRIATION FOR PUBLIC HEALTH

"In the session of the General Assembly," reported the Board in 1879, "which adjourned only a few weeks ago, the State has again shown her high appreciation of this Association by appropriating," February 12, 1879, ". . . the sum of three thousand dollars a year, for the uses of this Association in its capacity of State Board of

Health; and in a spirit of generous confidence in us, which we believe will prove to be as wise as it is generous, has entrusted the details of its expenditure to our discretion."

"It now becomes incumbent upon us to enter practically upon the work of the supervision of the sanitary interests of the State . . . In furtherance of this end, we



BENJAMIN BRITT SIMMS  
President  
1914-1915

respectfully recommend the adoption of . . . 'Ordinance Creating a Health Officer for the State of Alabama,' " submitted by the Board.

DR. JEROME COCHRAN ELECTED The ordinance  
FIRST STATE HEALTH OFFICER adopted, Dr. Jerome Cochran was elected, on Friday, April 11, 1879, Health Officer for a period of five years, with a salary fixed at \$1,500.00.

#### THE ASSOCIATION IN THE EIGHTIES

An act "To provide for the supervision of the public health . . . in the several counties of the State of Alabama," approved February 28, 1881, assigned certain duties to County Boards of Health; and granted authority to them to elect a County Health Officer for their respective jurisdictions and fix his term of office. There was thus shaped another link in the scheme

of organization that already had signalized Alabama among the states of the Union.

"In June last, I attended the meeting of the American Medical Association, in New York," said Dr. Wm. H. Anderson, of Mobile, in his message as President in 1881, where, "among several circles of physicians I had the great pleasure to hear The Medical Association of the State of Alabama spoken of in highest terms. The peculiar features of our organization had evidently impressed themselves on the medical faculty of states far distant from us, and among these were some of the oldest states in the



JAMES NORMENT BAKER  
President  
1915-1916  
State Health Officer  
Since 1930

Union . . . This was a great compliment, and I felt so proud of it that I determined, on my return home to write every physician in the State whose name I could get, and urge him at once to join his County Medical Society, so that, by our united efforts, we may keep Alabama in the front rank of similar organizations."

DISCONCERTING Greenville and the Butler  
LEGISLATION County Medical Society were hosts to the Association in 1885, the year the State Board of Censors found it necessary to report that "during the recent session of the General Assembly ten different



bills," seven of them unfriendly, "were introduced affecting in some way the interests of the medical profession and the status and work of the State Board of Health."

Speaking editorially of the emergency, the *Tuscaloosa Gazette* said:

Our attention has been called in the legislative proceedings to the introduction of several bills, which, if passed by the General Assembly, must

the preservation of its fame and even its organic integrity," the President, Dr. Benj. H. Riggs, of Selma, requested the Board of Censors and the Counsellors of the Association to meet in extraordinary session in Montgomery, at noon on January 29th, 1885. "It was a source of pride and great gratification to me," commented Dr. Riggs, "to see present so many earnest and influential members of the Association, who, at a moment's warning, as it were, left their engrossing private duties and came to the defense of their Association . . . Not one of the seven unfriendly bills succeeded in



HENRY GREEN  
President  
1916-1917

effect most disastrously the present health laws of the State. Alabama has been peculiarly fortunate in the statutory provisions regulating the practice of medicine within her borders, and in protecting and promoting the sanitary interests of her citizens. Her laws are conceded to be more progressive in these respects than those of any other state," and "have been alike beneficial and far reaching in their results, both in guarding the public health and elevating the standard of medicine in Alabama.

The successful execution of these laws must depend, in a large degree, upon the efficiency of the State Health Officer, and if the bill to abolish this office by withholding the appropriation should become a law, it is plain that the most disastrous consequences will follow. We do not believe, however, that our legislators can be influenced to take this backward step and thus sacrifice all the material progress that the State has made in sanitary science.

So serious did the situation appear, and believing "the supreme hour had come for the Association to exert its influence for



WILLIAM DEMPSEY PARTLOW  
President  
1917-1918

passing either house; some were reported on unfavorably, and some died an untimely death in committee."

Among those who attended the annual session of 1886, Anniston, April 13-16, was Dr. William A. Love, of Atlanta, appointed by the President of the Medical Association of Georgia to "look thoroughly into the workings of the Alabama Association," the President being possessed of an "exceeding anxiety" to have Alabama's methods understood by the profession of Georgia. "It will be seen," reported Dr. Love after dealing with the organization in some detail, "that the Medical Association of Alabama is a representative body, that its working is

at once unique and complex, its very complexity giving it strength. It has united the profession of the State as one man; its influence for good is felt throughout its jurisdiction. From irregulars it has met opposition. These for a time played upon the prejudices, the credulity, and gullibility of the people, and brought what at times seemed to be formidable opposition to it,

hundred and one thousand. If all the doctors in the organized counties were members of their county societies it would swell our membership to twelve or thirteen hundred . . . Marion, Winston, Covington, and Geneva . . . are all sparsely populated counties, and only one of them contains doctors enough to make a Board of Examiners. This one, Marion, we hope to be able to add to the roll at our next session. For the others we will perhaps have to wait a few years longer."

The meeting of 1888 was held in Montgomery under the presidency of Dr. Ed-



JAMES SOMERVILLE McLESTER  
President  
1919-1920

but its intelligent officers . . . have so far guided it safely to a condition of prosperity and power that would seem to vouchsafe a successful future . . . They are united in peace, they are working in harmony, and their social and political standing and influence is such that it is a sufficient guarantee that in the future, as in the past, they will be amply sustained by the enactments of the General Assembly in all their efforts for the common good of a confiding community."

On the fortieth anniversary of the birth of the Association sixty-two County Medical Societies were affiliated with the organization. Only Covington, Geneva, Marion and Winston remained to be organized, excepting Houston County which was not created until February 9, 1903. Said the Board in its report of 1887: "The aggregate membership of these societies is between nine



DYER F. TALLEY  
President  
1921-1922

ward Henry Sholl, of Birmingham. Commenting, particularly on the events of Tuesday evening, April 10th, the *Montgomery Advertiser* said:

Rarely have the citizens of Montgomery been called on to pay respect and courtesy to a finer body of men than those composing The Medical Association of the State of Alabama. That our people appreciate the distinguished visitors, was evidenced by the splendid audience assembled at the (Montgomery) Theatre to greet them and to hear the annual oration by Dr. Benjamin James Baldwin, of Montgomery. His subject, 'Health, and Physical Education as a Means of Promoting It,' was able and scholarly, and should be read and thoughtfully considered by the people at large.



It was at this meeting that complete organization of all County Medical Societies was reported. "Four new county societies have been organized," said the Board, "which completes the organization of the whole State . . . This is the crowning glory of twenty years of assiduous and persistent effort. Without doubt the . . . Association . . . of Alabama is now by far

his loss." Bryce Hospital will ever remain an enduring monument to him who died "with his mind clear to the last, and with his hand still on the machinery of that much loved institution, the product of his life work."

And then: "On the 17th of August 1896, Dr. Jerome Cochran, State Health Officer . . . died in the City of Montgomery." At the Atlanta meeting of the American Medical Association, last May," commented Dr. H. A. Moody, of Bailey Springs, Lauderdale County, on the



WALTER S. BRITT  
President  
1922-1923

the most powerful medical organization in the United States, and so far as we know, the most powerful in the world . . . Our past history is a continuous record of successful effort; and our future is bright with the promise of better things."

#### THE ASSOCIATION IN THE NINETIES

When the Association convened in Selma, April 18-21, 1893, it was the sad duty of the President, Dr. James Thomas Searcy, of Tuscaloosa, to make reference to the passing of Dr. Peter Bryce, who died August 14th, 1892. "At his death the sense of a great loss pervaded the whole State. In accordance with the general sentiment, and as a mark of public respect, the Governor ordered the flag at half-mast on the Capitol at Montgomery, and the people and the press of the State uniformly mourned



WILLIAM WADE HARPER  
President  
1923-1924

occasion of the memorial meeting held in Selma, April 22nd, 1897, "I noticed with alarm the extreme feebleness of Dr. Cochran, and suggested to him that perhaps he might find comfort or relief among the hills of North Alabama during the ensuing summer. The idea seemed to please him, and in July he came to Florence to a meeting of the Lauderdale County Medical Society. From there he accompanied me to my home. From the time of his coming to that of his departure he refused to entertain any hope of recovery. Gently, but firmly, he declined all medication, saying that his was not a case for drugs; that it was progres-

sive in its nature and had already destroyed all sensation of hunger; and that this was the beginning of the end . . .

"Thus calmly and cheerfully did his great, brave soul face the approaching mystery before which meaner spirits shrink and tremble. 'I have done my duty as I saw it, and I am ready.'"

The expression of the State Board of Censors was appropriately brief: "During the last year a great calamity befell us in the death of our leader (Jerome Cochran), the man who conceived this organization, and, above all others, built it up and made it what it is. Let us hope that his work was so well done that, although he is no longer here to guide us with his wisdom and to animate us with his courage, we may be able to push on and reap that splendid fruition for which he so earnestly worked and eagerly longed."

DR. SANDERS BECOMES SECOND  
STATE HEALTH OFFICER

Dr. William Henry Sanders, of Mobile, was chosen to succeed Dr. Cochran, thus becoming Alabama's second State Health Officer.

JEROME COCHRAN  
LECTURE FOUNDED

First among recommendations made by Dr. L. L. Hill, of Montgomery, in his annual message as President of the Association in 1898, was that future presidents appoint some eminent medical man, either in Alabama or from a distance, to deliver an address to be known as the "Jerome Cochran Oration." In keeping therewith, the Board submitted, and the Association adopted, the following ordinance:

*Be it Ordained by The Medical Association of the State of Alabama,*

That in accordance with the spirit of a recommendation made by Dr. L. L. Hill, President, there be and is hereby established as a mark of the high esteem, veneration and respect which we cherish for the memory of Dr. Jerome Cochran, a lecture to be known and denominated as 'The Jerome Cochran Lecture,' said lecture to pertain to some subject in biology, medicine, surgery or hygiene, and to constitute the regular order of business at 11 o'clock on the second day of the annual meetings of this Association . . .

And from that day to this it has been so!

(To be concluded)

## EYE DISEASES OF INTEREST TO THE GENERAL PRACTITIONER\*

By  
DEWITT BURKHEAD, M. D.  
Opelika, Alabama

Only those diseases most commonly seen will be discussed. Superficial conditions, such as acute conjunctivitis, are usually self limiting and require very simple treatment. Gonorrheal conjunctivitis, on the other hand, may be very serious. Absolute diagnosis is made by finding gonococci in the leukocytes of a smear taken from the infected eye. The condition must be attacked with a most vigorous treatment, outlined as follows: (1) frequent irrigation with a very weak potassium permanganate solution; (2) instillation of 20% argyrol or neosilvol; (3) intramuscular injections of gonorrheal vaccine; and, later, (4) application to the lids of 2% silver nitrate solution. Great care should be taken in handling these cases to protect one's self and members of the patient's family. The family should be instructed not to use about the face any article which the patient has been using. The complication most frequently seen is corneal ulcer. As a prophylactic against gonorrheal conjunctivitis one should instil a 1% silver nitrate solution or 10% argyrol in the newborn baby's eyes.

Another common condition is acute iritis. The cause must be sought. It may be due to diseased tonsils, root abscesses, diseased sinuses, syphilis, intestinal toxemia or tuberculosis. There are other causes which are more obscure. Quite frequently this is a very dangerous disease. It may extend to the uveal tract, resulting in a uveitis. A common complication is adhesions of the iris to the anterior lens capsule, making an irregular pupil. A secondary glaucoma may result. Treatment consists in removing the cause, if found, and in frequent instillation of atropine solution, bandaging the eye, large doses of sodium salicylate internally, and intramuscular injection of foreign protein.

Let us next consider acute glaucoma. Glaucoma is a disease in which intra-ocular pressure is increased and the eyeball becomes hard. Methods of diagnosing glau-

\*Read at the annual joint meeting of the Elmore and Tallapoosa County Medical Societies.



coma are: (1) measuring the tension of the eyeball with an instrument called the tonometer; (2) excavation of the optic disc; (3) contracture of the field; (4) extreme pain and redness of the eyeball; (5) shallow anterior chamber; (6) varying degrees of impaired vision; and (7) contracture of the visual field. A patient may have glaucoma without a manifestation of many of these symptoms. Vision may be lost suddenly and yet the eye not be red or painful. There are varying degrees of acute glaucoma. The most dangerous type is called fulminating glaucoma. The eye may be lost in twenty-four hours. Another is the so-called secondary glaucoma caused by other eye diseases; for example, a swollen cataract may set up a secondary glaucoma. A chronic iritis may block the canal of Schlemm and cause a secondary glaucoma. Methods of treating glaucoma are: (1) Medicinal—dehydration of the patient with magnesium sulphate; instillation of eserine into the eye, and the application of ice cold compresses; and (2) Surgical—Elliot's trephine operation or iridectomy.

We may here mention two conditions in which the vision is suddenly lost, temporarily, without redness or pain of the eyeball. They are intra-ocular hemorrhage and tuberculous uveitis.

Let attention be directed now to a few of the more obscure and difficult eye conditions from a diagnostic standpoint. Intracranial pressure may be diagnosed first by the ophthalmologist. He may see a choked disc or a papillitis. These conditions can be diagnosed only by the use of the ophthalmoscope. The eye man may diagnose cases of nephritis by noting retinal hemorrhages; or wood alcohol poisoning by edema of the nerve head, first, and optic atrophy later. Optic atrophy is seen also in neurosyphilis.

We may now turn to the field of vision. By field of vision is meant ability to see over a wide area. When the eye is fixed on an object, straight ahead for example, one unconsciously sees automobiles coming from the right or left, if the field is normal; or, when looking straight ahead, objects above or below, thereby enabling one to avoid accidents or injury. What of impaired field of vision! One may have the nasal half of the field of one eye and the temporal half of the field in the other lost.

This is seen in pituitary tumors. One half the field in one eye may be lost. This is caused frequently by a tumor of the optic nerve after it has desiccated. This tumor was first described by Dr. Harvey Cushing. A contracture of the field is often seen in glaucoma. Blind spots in the field are called scotomata. These may be the result of scars from old hemorrhages, choroiditis, etc.

We should consider, briefly, ulcers of the cornea. Corneal ulcers are in many cases very difficult to cure. They are treated by as many methods as there are doctors treating them. A general outline of treatment, which has proven of benefit in many cases, is as follows: The eye is put at rest with 1% sterile atropine solution, t.i.d., and kept bandaged. Injections of milk or tuberculin are given and the general condition of the patient is built up. Dionin is a most important drug in the treatment of ulcers. Its action is one of irritation, which promotes a leukocytosis. Dionin when instilled into the eye is very painful, the eye becoming extremely red. For these reasons the patient becomes frightened and dionin is usually left off. However, it is a most important drug in the treatment of simple corneal ulcers. Just let us note while passing that specific keratitis and ulcers are treated by usual methods, embracing bismuth, arsphenamine, mercury, and potassium iodide. Local treatment consists of atropine, bandaging and dionin.

Lastly, we shall take up, briefly, the diagnosis and treatment of lenticular diseases. (1) Senile cataract is a surgical condition. If the cataract is successfully removed useful vision is obtained. (2) Traumatic cataract, if in one eye only, should be left alone. (3) Congenital cataracts can be needed successfully and some vision restored. Frequently, however, repeated needling operations have to be resorted to and acuity of vision remains poor for the remainder of life.

ANNUAL MEETING  
MONTGOMERY  
APRIL 21-22-23

# THE JOURNAL

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#### NONSPECIFIC PROTEIN THERAPY

In recent issues of the Journal of the American Medical Association there appeared an excellent series of two special articles by Drs. Ludvig Hektoen and Russell L. Cecil dealing with the physiologic and clinical aspects of nonspecific protein therapy.

Hektoen<sup>1</sup> observes that "the usual obvious effects of the intravenous injection of foreign proteins of any kind are chill, fever, headache, and gastro-intestinal and other disturbances. These effects are dependent on and associated with humoral and cellular changes of complex nature. In its typical form the protein reaction reaches its height a few hours after the injection, and in infectious states the subsidence of the reaction may be followed by clinical improvement. The benefit seems to bear some relation to the general reaction and fever; the higher the fever, the better may be the results. Depending on the kind and on the quantity of protein injected as well as on the patient and his disease, the effects of such injections are subject to much variation."

Cecil<sup>2</sup> says that "during the last few years a great many commercial products have

been put on the market. Some of these are derived from milk, others from vegetable proteins, while still others are prepared from bacteria."

"At the present time the three proteins most frequently used in America are typhoid vaccine, boiled milk and diphtheria antitoxin." He cites the analysis made by Hench of 2,500 patients at the Mayo Clinic who received intravenous injections of typhoid vaccine. Of this 2,500 only fourteen unusual reactions were noted and there were three deaths. The complications were appendicitis, cholecystitis, enteritis, pleurisy, pericarditis, iritis, glaucoma, adenitis, vascular thrombosis and renal insufficiency. Cecil himself has seen four fatal reactions from foreign protein therapy, three of whom received intravenous injections of pneumococcus antibody solution. The fourth fatality was a patient in the advanced stages of dementia paralytica who received an intravenous injection of typhoid vaccine, developed the customary hyperpyrexia, and died of circulatory collapse. Cecil also reminds us of the well-known fact that subcutaneous and intramuscular injections of protein usually excite comparatively mild reactions. And his point is undoubtedly well taken when he says, "I believe that foreign protein therapy will always find its greatest usefulness in acute and subacute infections. The glowing reports by some writers on the achievements of protein therapy in various chronic diseases have not been widely corroborated. It is significant that many of these rather startling claims have been made with regard to certain chronic infections such as peptic ulcer, multiple sclerosis and chronic arthritis, which are characterized by periodic remissions and exacerbations." He quotes ophthalmologists as stating that nonspecific therapy is of great value in iritis, keratitis, conjunctivitis and other inflammatory conditions of the eye. And he states that "in pelvic disease the most important field of protein therapy has been in adnexal infections of an acute or subacute type" and he quotes Stuhler, of the Mayo Clinic gynecologic staff, as believing that it has saved a great many patients from major surgical operations. In arthritis, where Cecil has had vast experience, he says that

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1. Hektoen, Ludvig: Nonspecific Proteins: The Reactions to the Nonspecific Protein Treatment of Infectious Diseases, J. A. M. A. 105: 1765 (Nov. 30) 1935.

2. Cecil, R. L.: Nonspecific Protein Therapy, J. A. M. A. 105: 1846 (Dec. 7) 1935.



"foreign protein therapy should always be considered in the treatment of acute arthritis, especially for those cases in which salicylates have failed to give good results."

The writer lists the following important contraindications to intravenous foreign protein therapy: Advanced arterial, renal or cardiac disease; allergic states; states of extreme exhaustion; pulmonary tuberculosis, active or quiescent; hemorrhagic conditions; chronic alcoholism; marked nervous sensibility, such as hyperthyroidism and the like. "The contraindications for subcutaneous or intramuscular injections of protein are much less stringent than for the intravenous injections. Indeed, there are very few patients who cannot take with impunity small doses of bacterial vaccine, boiled milk or serum subcutaneously."

Cecil's conclusion is that "it may be said protein therapy, after twenty years of investigation and clinical trial, rests on a sound foundation and has now achieved a permanent though limited place for itself in modern therapeutics. In the realm of infectious diseases it has met with general acceptance in the treatment of: (1) infections of the eye; (2) acute and subacute pelvic infections; (3) certain infections of the skin; (4) a few generalized infections, such as sepsis and typhoid; (5) acute and chronic forms of infectious arthritis; and (6) cerebrospinal syphilis, especially dementia paralytica."

Nonspecific protein therapy is within the reach of the average practitioner, even though he may be in an isolated locality. And the practicing physician can benefit many of his patients by this form of therapy, if only he will exercise caution and will not be misled by extravagant claims, either of scientific or commercial origin. And, finally, it is interesting to speculate upon the extent to which nonspecific protein therapy may be replaced by the newer, electrically induced hyperpyrexia.

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#### HAZARDS OF THE INDISCRIMINATE USE OF BARBITURIC ACID PRODUCTS

During the 1935 meeting of the Legislature, the following Bill dealing with the dispensing and sale of the various barbituric acid derivatives was enacted into law:

#### AN ACT

To prohibit the sale of barbital, sulphonethylmethane (trional), sulphonmethan (sulphonol), diethylsulphondiethylmethane (tetronal), paraldehyde and chloral or chloral hydrate or any of its derivatives, compounds or mixtures of any of these drugs possessing hypnotic properties or effects, except upon prescriptions of lawfully authorized practitioners of medicine, dentistry or veterinary medicine.

#### *Be It Enacted by the Legislature of Alabama:*

Section 1. No person, firm or corporation shall sell, furnish or give away any barbital, sulphonethylmethane (trional), sulphonmethan (sulphonol), diethylsulphondiethylmethane (tetronal), paraldehyde, and chloral or chloral hydrate or any derivatives, compounds or mixtures of any of the drugs possessing hypnotic properties or effects, except upon the original written order or prescription of a lawfully authorized practitioner of medicine, which order or prescription shall be dated and contain the name of the person for whom prescribed or if ordered by a practitioner of veterinary medicine it shall state the kind of animal for which ordered and shall be signed by the person giving the prescription or order.

Section 2. Any person violating any of the provisions of this Act shall be guilty of a misdemeanor and shall be fined not less than ten dollars (\$10.00) or more than five hundred dollars (\$500.00).

Section 3. All laws and parts of laws in conflict with the provisions of this Act are hereby expressly repealed.

This measure had the endorsement both of the medical profession, through its Committee on Public Relations, and the State Health Department. There is no question as to the value of certain of these products in their effects upon the central nervous system, when administered to selected cases and under the guidance of the trained physician; just as there is no question as to the value of other potent therapeutic agents, such as strychnine, arsenic or morphine. But the employment of any such drug should be regulated and tempered by trained, scientific judgment. Commercial houses, sensing the demand for nerve sedation on the part of a "jittery" public, have racked their brains over time in hatching out trade-names for their own particular brand of pharmaceutical carrying this drug. One of the leading newspapers of the State recently referred to the efforts of the police commissioner of a certain city in enforcing an ordinance dealing with the abuses of this drug as "City Opening War on Canned Heat." Every physician knows that these

drugs, when used indiscriminately and without proper medical guidance are habit-forming and may frequently lead to abuse and serious consequences; the druggist also knows this. Proper and adequate cooperation on the part of the medical and pharmaceutical professions in this matter will go far toward educating the public and con-

trolling the dangers inherent in the abuse of these drugs. The members of both professions must acquaint themselves with the provisions of this Act and manifest sufficient interest in its observance to see that the public is safeguarded from the potential dangers lurking in this type of self medication.

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## DEPARTMENT OF PUBLIC HEALTH

### BUREAU OF PREVENTABLE DISEASE CONTROL

D. G. Gill, M. D., Director

#### UNDULANT FEVER IN ALABAMA

During recent years there has been a steady increase in the number of cases of undulant fever reported in Alabama. This disease was almost unknown in the United States prior to 1925, but since that time there has been an increasing number of cases recognized each year. There may have been an actual spread of the disease or the medical profession may be diagnosing more cases than formerly. This latter assumption is probably the most important factor. The fifty-four cases reported in 1935 represent the peak incidence to date, but it is more than likely that 1936 will exceed that total.

The term, undulant fever, as used in this country, embraces infection with three varieties of *Brucella*. The original member of this group was the *Brucella Melitensis* which was recognized as the causative factor in Malta fever by Bruce in 1887. The *Brucella Abortus*, whether the bovine or porcine strain, was later incriminated as the cause of contagious abortion in cattle and swine and as the causative agent in human cases of disease. Evans, in 1918, showed the close relationship between *Brucella Melitensis* and *Brucella Abortus*, and this became doubly important when the wide incidence of the disease was discovered.

The fact that a strain isolated from a human case may be classified as bovine or porcine *Brucella Abortus*, or as *Brucella Melitensis*, does not necessarily mean that the infection was derived directly from the cow, the hog or the goat. The bovine strain is most often confined to cows, but the porcine

strain has frequently been isolated from cattle and the *Brucella Melitensis* may be artificially inoculated into cattle very readily. Most of the human cases occurring in Alabama are probably due to the bovine or porcine strains. Clinically, undulant fever due to the porcine variety tends to be more severe.

There appear to be two main avenues of infection in this disease: (1) By ingestion of milk and milk products containing *Brucella Abortus*. (2) Through the broken skin, or through the conjunctiva of the eye following contact with infected animals or their contaminated secretions. The second avenue is probably the common one for veterinarians and for farm workers, while most urban cases arise from drinking raw milk or using milk products from unpasteurized milk. It has been shown that pasteurization will effectively destroy all forms of the *Brucella* family.

Control of the disease through eradication of the infection in animals is ideal, but the infection is so widespread that practically it offers almost insurmountable difficulties. Few dairy herds are free from involvement, and the testing necessary to determine the amount of infection is expensive and time-consuming. That there are not more human cases of the disease is probably due to the natural immunity of most people and to the low pathogenicity of most of the organisms originating in cattle.

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#### CONGENITAL SYPHILIS

Children with syphilis, whose treatment is begun while they are under six months of age, have an eighty-four per cent chance of serologic as well as clinical "cure" if given before the age of two years. The arseni-



cal and bismuth ought to be alternated. Sulpharsphenamine can be used for those children whose veins are too small for intravenous therapy.

## BUREAU OF LABORATORIES

James G. McAlpine, Ph.D., Director

### FOOD POISONING\*

#### III. THE BARBITURIC ACID SERIES

Large quantities of the substituted barbituric acids are being used as hypnotics in Alabama each year. These compounds, while not classed as common poisons, are powerful drugs and are of considerable toxicologic importance. Dialkylbarbituric acids, like the disulphones, show a relationship between chemical structure and physiologic action. The dimethyl compound has hardly any soporific action; the dipropyl derivative, propanal, maximum action. The ethylphenyl compound, luminal, is said to have three times the power of veronal.

These compounds are quite toxic when administered in quantities of three to twelve grams and a number of deaths have been reported from their use. The fatal dose of veronal has been placed at ten grams. During the last regular session of the Legislature cognizance was taken of the fact that many of these chemical compounds were being used in doses far beyond that which would be prescribed by a practicing physician. For that reason a statute was placed on the books prohibiting the sale of these unless a doctor had prescribed them. The Act was approved by the Governor on August 8th 1935, and reads as follows:

#### AN ACT

To prohibit the sale of barbital, sulphonethylmethane (trional), sulphonmethan (sulphonol), diethylsulphondiethylmethane (tetronal), paraldehyde and chloral or chloral hydrate or any of its derivatives, compounds or mixtures of any of these drugs possessing hypnotic properties or effects, except upon prescriptions of lawfully authorized practitioners of medicine, dentistry or veterinary medicine.

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nal), diethylsulphondiethylmethane (tetronal), paraldehyde, and chloral or chloral hydrate or any derivatives, compounds or mixtures of any of the drugs possessing hypnotic properties or effects, except upon the original written order or prescription of a lawfully authorized practitioner of medicine, which order or prescription shall be dated and contain the name of the person for whom prescribed or if ordered by a practitioner of veterinary medicine it shall state the kind of animal for which ordered and shall be signed by the person giving the prescription or order.

Section 2. Any person violating any of the provisions of this Act shall be guilty of a misdemeanor and shall be fined not less than ten dollars (\$10.00) or more than five hundred dollars (\$500.00).

Section 3. All laws and parts of laws in conflict with the provisions of this Act are hereby expressly repealed.

Kracke and Parker,<sup>1</sup> in an extensive study of the etiology of granulopenia (agranulocytosis), have made an interesting suggestion concerning the barbiturates. They point out that the first case was reported in the United States approximately eleven years ago and have been able, up to 1934, to find 473 patients suffering from this disorder. The disease is much more prevalent in the United States and Germany than in other countries and it is significant that more barbiturates are used in these two lands than elsewhere. Members of the white race and those who are of the better class are primarily affected. The possible hypothesis given by them is that certain individuals—not all—may suffer from agranulocytosis after a prolonged administration of these drugs. The following is quoted from the article cited above: "It is urged that all who have the opportunity to study cases of granulopenia should direct their attention to a careful history of known marrow depressing agents and the usage of benzamine drugs in particular."

Numerous qualitative tests have been proposed for barbital (veronal) and other individual members of the group of substituted barbituric acids, but no reaction has been applied to the whole series of these compounds. It is possible to use some of the following reactions for the identification of the compounds: solubility test, melting points, permanganate test, precipi-

1. Kracke, R. R. and Parker, F. P.: The Etiology of Granulopenia (Agranulocytosis), J. Lab. & Clin. Med. 19: 779-818 (May) 1934.

\*Third in a series. The first appeared in February.

tation tests, and certain color reactions with sulphuric acid, formalin sulphuric acid and nitrite sulphuric acid. Inasmuch as the barbiturates are relatively new chemical compounds, it is probable that more accurate qualitative and quantitative tests will be worked out in the near future.

## BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

### CHILD HEALTH SERVICES

A program is being developed with funds appropriated through the Social Security Act that will permit the Federal Government, through the Children's Bureau, to cooperate with the State Health Department in extending and strengthening health services to children in Alabama. The general program includes consultation, education and demonstration services in close cooperation with medical, dental, education and welfare organizations. There will be close coordination and correlation of child health activities with those of other departments of the Federal and State Governments. National and state lay and professional organizations, such as tuberculosis associations, Red Cross chapters, parent-teacher associations and civic clubs, will be called upon to aid in promoting the program.

Attention will be directed toward the health needs of children of all ages, particularly those who are physically or mentally handicapped. The school health program that is now being conducted by the county health units will be continued and, in some instances, augmented. Efforts will be made to create increased interest in the health needs of infants and preschool children.

In developing the educational program there has been formed a state advisory committee composed of the Governor and the administrators of the several state departments interested in child health, education and welfare. This committee will meet from time to time to discuss plans and procedures for carrying forward the child health program. In addition county advisory councils will be organized by representatives of the lay and professional groups from paid and volunteer organizations particularly interested in the promotion of community betterment.

The functions of these advisory organizations will include: (1) Stimulating interest in early and continued prenatal medical and nursing supervision. (2) Promoting approved delivery care for all parturient women. (3) Urging medical and nursing supervision of mother and infant through the six weeks postpartum period. (4) Promoting the program of supervision for the infant through the first year to include the administration of diphtheria toxoid and smallpox vaccine. (5) Stimulating interest in health supervision of all children. (6) Urging the importance of the correction of physical defects in children. (7) Maintaining interest in follow-up visits made by the public health nurse. (8) Increasing the interest in the health of children in industry. (9) Promoting interest in the clinics for cripple children. (10) Stimulating interest in public health nursing service for children. (11) Urging knowledge of and interest in resources of the state for institutional care of orphans, feeble-minded, blind and deaf.

The infant mortality rate for Alabama was 84.5 per 1,000 live births in 1934, the last year for which records are available. This record gives Alabama a poor standing when compared to the rate for the U. S. Registration Area which is 56 per 1,000 live births for the same period. The rate for Alabama represents the death of 4,307 infants in this state during 1934. Because many of these deaths are due to preventable causes it has seemed advisable to add a pediatrician to the staff of the Bureau of Hygiene and Nursing of the State Health Department.

The general program of the pediatrician will include stimulating the interest of the physicians in child health, and promoting educational features for the personnel of county health units, medical profession and laity. He will proceed with this program by conducting pediatric clinics in the various communities of the state for the benefit of the medical profession. Cases will be referred to these clinics by the physicians and findings will be used for study and teaching purposes. No treatments will be given at the pediatric clinics but outlines for treatments will be discussed and recommendations made to the physicians



referring cases and those in attendance. The pediatrician will be available to the physicians for consultation service in bedridden or difficult cases when he is in a community.

In addition to the clinic and consultation services to the physicians the pediatrician will prepare the educational material on child health for the personnel of the county health units, medical profession and laity in the form of public speeches, radio talks, newspaper articles and publications for the *Journal of the State Medical Association*.

It is anticipated that through the activities carried on by the pediatrician great good can be accomplished toward the reduction in the morbidity and mortality rates among children in Alabama.

It should be understood by the medical profession that it is not the function of health workers to render medical care to the sick. Their responsibility is to conduct a preventive program. They are eager, however, to know that provision for adequate care is made through private physicians and dentists or, in the case of children in families unable to provide the necessary care, through appropriate welfare agencies. In the child health field this is especially necessary for the correction of remediable defects that handicap the normal growth and development of children. For the purpose of promoting this important feature of the program in child health, plans for cooperation with hospitals, clinics and other institutions for the care of the sick or handicapped must be worked out with the physicians, dentists and welfare agencies. The services of the pediatrician will be available for consultation with all concerned in formulating a satisfactory plan to meet the needs in each county.

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## BUREAU OF SANITATION

G. H. Hazlehurst, Director

### PREVENTION OF ATHLETE'S FOOT

To control the spread of ringworm of the feet, commonly spoken of as athlete's foot, it is necessary to kill the tiny spores that may be deposited in places likely to come in contact with bare feet; for example, the floors, hallways and runways of swimming

pools, dressing and shower rooms, locker rooms, and athletic clubs.

Considering that fifty per cent of the adult population, as estimated by the United States Public Health Service, at one time or another is affected with athlete's foot, it appears that an effort should be made by persons, and organizations responsible for the operation of places where the disease may be contracted, to practice simple control measures to prevent the spread of the infection, as far as possible.

Since there is a likelihood of infected feet depositing the infective organism on floors of locker rooms, dressing rooms, shower rooms, hallways, and on mats of spring boards, etc., these should be washed with some cleaning compound daily and disinfected. Disinfectants given elsewhere in this article have been reported to give good results.

In addition to the daily attention to floors, foot baths should be located in convenient places and the patrons required to use them. At swimming pools it is suggested that the special baths be so placed that they must be used by bathers going from the dressing room to the pool and from the showers to the dressing room. The prime purpose of the foot bath is to destroy any fungi and bacteria that may be on the outer surface of the feet, but the bath may serve an additional purpose by the tracking of the solution over the floors, thereby aiding in keeping the floors sterilized.

The vessels used for the baths are from 3½ to 4 inches deep and approximately 2-foot square, inside dimensions. The materials should be of a quality to resist the action of the chemicals in the solution. Hard rubber has been used in this connection. These rubber pans are manufactured by several commercial concerns.

Sinks or wells provided with a bottom drain may be constructed in the floors to replace the pan baths or used in connection with them. They should be so located and constructed that patrons can not jump or walk around them. The material used as a lining for the wells should be of such quality as will resist the action of the chemicals in the solution. Tile has been reported as very satisfactory.

In an article in the *Journal of the Ameri-*

can Association for Hygiene and Baths, Dr. Earle D. Osburne and Blanche S. Hitchcock report that experiments using a 1 per cent solution of sodium hypochlorite have given excellent results in preventing ringworm infection. They also recommend the use of calcium hypochlorite in solution. The above authors recommended that the solutions be prepared as follows:

*Sodium Hypochlorite:* The solution obtained commercially usually contains from 1 to 3 per cent available chlorine. This should be diluted 1 part in about 30 to 100 parts of water needed to fill the bath. This is equivalent to approximately 2 to 4 ounces of the commercial solution to each gallon of water used.

*Calcium Hypochlorite:* This chemical is obtained in a powdered form and is known as chlorinated lime and bleaching powder. The amount of available chlorine is variable. An effective solution may be made by mixing one teaspoonful of the fresh powder with each gallon of water used in the bath.

The solution for the bath should be prepared each day as its strength is lost rapidly.

The chemicals mentioned are not costly, are easily prepared in solution, and may be obtained from or through local merchants.

A. N. B.

## BUREAU OF VITAL STATISTICS

Leonard V. Phelps, Director

### CERTIFICATION OF THE MEDICAL CERTIFICATE OF DEATH

The true value of our vital statistics is entirely dependent upon the accuracy of the data upon which they are based. Each year thousands of queries are sent by the Bureau of Vital Statistics in an attempt to secure missing information and a clarification of some statement of cause of death.

Section 1071 of the Code of Alabama specifically states that "indefinite and unsatisfactory terms, denoting only symptoms of disease or conditions resulting from disease will not be held sufficient for the issuance of a burial or removal permit."

Experience has shown that many physicians do not appreciate the importance of these statistical data or they are not familiar with the terms referred to as "undesir-

able" or "unsatisfactory." In order that every physician may become familiar with what is considered as "bad usage" in the medical certification of cause of death, a list of "undesirable" or "unsatisfactory" terms has been prepared, together with the reason "why" they are so considered.

In the following list "U. T." indicates an undesirable, indefinite or unsatisfactory term. The word "why" precedes each explanation as to why the terms used are undesirable.

The full cooperation of each physician is sought in order that the accuracy and reliability of our statistics may be as great as possible.

#### LIST OF UNDESIRABLE TERMS\*

- U. T.* "Abscess," "Abscess of brain," "Abscess of lung," etc.
- Why.* Was it tuberculous or due to other infection? Traumatic? The return of "Abscess," unqualified, is unsatisfactory. State cause (in which case the fact of "abscess" may be quite unimportant) and location.
- U. T.* "Accident," "Injury," "External causes," "Violence." Also more specific terms, as "Drowning," "Gunshot," which might be either accidental, suicidal, or homicidal.
- Why.* Impossible to classify satisfactorily. Always state (1) whether accidental, suicidal, or homicidal and (2) means of injury (e. g., Automobile struck by railroad train). The lesion (e. g., fracture of skull) should be added. Specify where the accident occurred—at home, in industry, or in a public place.
- U. T.* "Acidosis."
- Why.* Cause of the "Acidosis?" Was it due to starvation, pregnancy, diabetes, or cardiovascular disease?
- U. T.* "Anasarca," "Ascites." See "Dropsy."
- U. T.* "Atrophy," "Asthenia," "Debility," "Decline," "Exhaustion," "Inanition," "Weakness," and other vague terms.
- Why.* Frequently cover tuberculosis, prematurity, and other definite causes. Name the disease causing the condition.
- U. T.* "Blood poisoning." See "Septicemia."
- U. T.* "Bright's disease."
- Why.* Was it acute or chronic and, if acute, what was the cause? Was it puerperal?
- U. T.* "Bright's disease, acute."
- Why.* What was the cause of the "Acute Bright's disease?" If it appeared as a complication or sequela of some other disease or abnormal condition, state nature of same. Was it

\*It is understood that the term criticized is in the exact form as given above, without further explanation or qualification.



- due to scarlet fever? When no cause can be ascribed, write "Bright's disease acute (cause unknown)."
- U. T.* "Bronchopneumonia."  
*Why.* Always state whether it was primary or secondary to some other disease, as measles, whooping-cough, etc. If primary, write "Bronchopneumonia (primary)." If secondary, write the disease which preceded it.
- U. T.* "Burns."  
*Why.* How received? If due to an explosion in a kitchen stove or conflagration, as burning house, etc., so state. Always state the circumstances and whether accidental or suicidal. Specify whether the burns occurred at home, in industry, or in a public place.
- U. T.* "Cancer," "Carcinoma," "Sarcoma," etc.  
*Why.* Name the organ or part first affected. Specify carcinoma, sarcoma, hypernephroma, etc., if possible.
- U. T.* "Catarrh." Avoid this term, if possible.
- U. T.* "Cardiac insufficiency," "Cardiac weakness," etc.  
*Why.* The exact form of cardiac affection should be stated, if possible. See "Heart disease" and "Heart failure."
- U. T.* "Cardiac dilatation," "Cardiac dilatation, acute."  
*Why.* Do not report when a mere terminal condition. State cause. See "Heart disease."
- U. T.* "Cellulitis." See "Abscess," "Septicemia."
- U. T.* "Cerebral softening."  
*Why.* What was the cause? If due to arteriosclerosis, cerebral hemorrhage, embolism, thrombosis, traumatism, or any other known cause, state nature of same.
- U. T.* "Cerebrospinal meningitis." See "Meningitis."
- U. T.* "Congestion," "Congestion of bowels," "Congestion of brain," "Congestion of kidney," "Congestion of lungs," etc.  
*Why.* The word "congestion" either alone or in combination is unsatisfactory. If the disease amounted to inflammation, use the proper term (lobar pneumonia, chronic nephritis, enteritis, etc.); merely passive congestion should not be reported as a cause of death. State the primary cause.
- U. T.* "Continued fever." See "Fever."
- U. T.* "Convulsions," "Eclampsia."  
*Why.* State the cause and do not use this indefinite term which is merely a symptom. Eclampsia, when due to a puerperal condition, specify puerperal eclampsia.
- U. T.* "Croup."  
*Why.* "Croup" is a most pernicious term from a public health point of view. Write "Diphtheria" when this disease is the cause.
- U. T.* "Dentition," "Teething."  
*Why.* State disease causing death.
- U. T.* "Dilatation of stomach."  
*Why.* Symptomatic. What was the cause?
- U. T.* "Disease," "Trouble," or "Complaint" of (any organ), e. g., "Lung trouble," "Kidney complaint," "Disease of brain," etc.  
*Why.* Name the disease, e. g., lobar pneumonia, tuberculosis of lungs, chronic interstitial nephritis, syphilitic gumma of brain, etc.
- U. T.* "Dropsy."  
*Why.* This is merely a symptom and the disease causing it should be named, e. g., diseases of the heart, kidney, etc.
- U. T.* "Eclampsia." See "Convulsions."
- U. T.* "Edema of the glottis."  
*Why.* What was the cause? If due to disease of any part or to injury, specify.
- U. T.* "Edema of lungs."  
*Why.* Usually terminal. Name the disease causing the condition.
- U. T.* "Endocarditis."  
*Why.* Specify whether acute or chronic.
- U. T.* "Extravasation of urine."  
*Why.* What was the cause? If due to a diseased condition or if it followed an operation or injury, define the primary condition, if known.
- U. T.* "Fever."  
*Why.* Name the disease, as typhoid fever, lobar pneumonia, malaria, etc., in which the "fever" occurs.
- U. T.* "Fit" or "Fits."  
*Why.* Very indefinite and therefore objectionable term. Specify whether epilepsy or apoplexy, etc.
- U. T.* "Fracture," "Fracture of skull," etc.  
*Why.* Indefinite: (1) state the nature of the violence that produced it (accidental, suicidal, etc.); (2) the means of injury.
- U. T.* "Gangrene of the intestines."  
*Why.* What was the cause? If due to embolism, mechanical obstruction, or paralysis, state as clearly as possible the nature of the affection. If due to violence, state the means or instrument of injury—e. g., automobile, revolver, etc.—and whether accidental, suicidal, or homicidal.
- U. T.* "Gastritis," "Gastric catarrh," "Acute indigestion."  
*Why.* Frequently unsatisfactory as a statement of the actual cause of death; the terms should not be loosely used to cover almost any fatal affection with irritation of stomach. Gastroenteritis? Acute or chronic, and cause?

- U. T.* "General decay," etc. See "Old age."
- U. T.* "General sclerosis."
- Why.* Was it general sclerosis of the spinal cord, or general arteriosclerosis?
- U. T.* "Heart disease," "Heart trouble," even "Organic heart trouble."
- Why.* The exact form of the cardiac affection, as mitral regurgitation, aortic stenosis, chronic endocarditis, chronic myocarditis, etc., should be stated.
- U. T.* "Heart failure," "Cardiac weakness," "Cardiac asthenia," "Cardiac exhaustion," "Paralysis of the heart," etc.
- Why.* All of these terms are unsatisfactory. If no more definite statement can be furnished, the return will be classified under ill-defined diseases, and not under heart disease.
- U. T.* "Hemiplegia." See "Paralysis."
- U. T.* "Hemorrhage," "Hemoptysis," "Hemorrhage of lungs."
- Why.* All of these terms are unsatisfactory. State the cause of the hemorrhage. Was it tuberculosis? Was it puerperal or due to injury? If due to violence, state fully. Coroners, medical examiners, and physicians who certify to deaths from violent causes should always clearly indicate the fundamental distinction of whether a death was due to accident, suicide, or homicide, and then state the means or instrument of death. The qualification "probably" may be added when necessary. Where a death was due to accidental injury, specify whether the injury occurred in industry, in the home, or in a public place.
- U. T.* "Homicide."
- Why.* State means employed, e. g., poison, revolver, cutting instrument, etc.
- U. T.* "Hydrocephalus."
- Why.* If the hydrocephalus is of tuberculous origin, it should be definitely stated so that deaths from this cause may be distinguished from other diseases of the brain or its membranes. Congenital hydrocephalus should always be returned as such.
- U. T.* "Hydrocephalus, acute."
- Why.* State primary cause of condition. If tuberculous, so state. If not tuberculous, write "Hydrocephalus, acute (not tuberculous)."
- U. T.* "Hysterectomy." See "Operation."
- U. T.* "Infantile asthenia," "Infantile atrophy," "Infantile debility," etc. See "Atrophy."
- U. T.* "Infantile paralysis."
- Why.* This term is sometimes used for paralysis of infants caused by instrumental delivery, etc. If the term is used as a synonym of acute anterior poliomyelitis, make a statement to this effect.
- U. T.* "Infection," "Infectious disease."
- Why.* Very indefinite. Name the disease, part affected, and nature of the infection.
- U. T.* "Inflammation."
- Why.* Of what organ or part of the body? Cause?
- U. T.* "Jaundice."
- Why.* State disease causing this condition.
- U. T.* "Laparotomy." See "Operation."
- U. T.* "Malignant," "Malignant disease."
- Why.* Should be restricted to use as qualification for neoplasms; see "Tumor."
- U. T.* "Malnutrition." See "Atrophy."
- U. T.* "Membranous laryngitis."
- Why.* State clearly whether diphtheritic or not.
- U. T.* "Meningitis," "Cerebral meningitis," "Cerebrospinal meningitis," "Spinal meningitis."
- Why.* These terms are not definite. Specify either as cerebrospinal fever, meningococcus meningitis, or epidemic cerebrospinal meningitis, when this type of meningitis is the cause of death. A sporadic case should be reported as well as those which occur during an epidemic. Mere terminal or symptomatic meningitis should not be entered as a cause of death; name the disease in which it occurred. Tuberculous meningitis should be reported as such.
- U. T.* "Natural causes."
- Why.* This statement eliminates external causes, but is otherwise of little value. What disease (probably) caused death?
- U. T.* "Nephritis."
- Why.* Was it acute or chronic and, if acute, what was the cause? Was it puerperal?
- U. T.* "Nephritis, acute."
- Why.* What was cause of the "acute nephritis?" If it appeared as a complication or sequela of some other disease or abnormal condition, state nature of the same. Was it puerperal? Was it scarlatinal? When no cause can be ascribed, write "Acute nephritis (cause unknown)."
- U. T.* "Old age," "Senility," etc.
- Why.* Too often used for deaths for elderly persons who succumbed to a definite disease. Name the disease causing death.
- U. T.* "Operation," "Surgical operation," "Surgical shock," "Amputation," "Hysterectomy," "Laparotomy," etc.
- Why.* These are names of surgical procedures and not of diseases. Name the disease, abnormal condition, or form of external violence (means of death; accidental, suicidal, or homicidal), for which the operation was performed. If death was due to an anesthetic, state that fact and name the anesthetic.



*U. T.* "Paralysis," "General paralysis," "Paresis," "General paresis," "Palsy," etc.

*Why.* The vague use of these terms should be avoided, and the precise form stated, as acute ascending paralysis, paralysis agitans, bulbar paralysis, etc. Write general paralysis of the insane in full; this is essential for satisfactory assignment of this cause. Distinguish paraplegia and hemiplegia, and in the latter, if a sequela of apoplexy or cerebral hemorrhage, so state. If paraplegia was of spinal origin, specify.

*U. T.* "Parotiditis (parotitis)."

*Why.* State definitely whether mumps or not.

*U. T.* "Perforation or rupture of a part."

*Why.* State cause of perforation or rupture—e. g., ulcer, injury by automobile, revolver, fall, etc.—and in case of injury, state whether accidental, suicidal or homicidal.

*U. T.* "Peritonitis."

*Why.* Whenever this condition occurs either as a result of hernia, perforating ulcer of the stomach or bowel, appendicitis, or metritis (puerperal or otherwise), or as an extension of morbid processes from other organs, name the cause. Always state if due to tuberculosis or cancer. When traumatic, report means of injury and whether accidental, suicidal, or homicidal.

*U. T.* "Pleurisy."

*Why.* State the cause, as lobar pneumonia, acute rheumatism, tuberculosis, traumatism. If due to violence, state the means or instrument of injury—e. g., automobile, stab wound, etc.—and whether accidental, suicidal, or homicidal.

*U. T.* "Pneumonia," "Typhoid pneumonia."

*Why.* "Pneumonia," without qualification, is indefinite; it should be clearly stated either as bronchopneumonia or lobar pneumonia. If bronchopneumonia, always state whether primary or secondary. The term "croupous pneumonia" is also clear. The term "typhoid pneumonia" should never be employed, as it may mean either enteric fever (typhoid fever) with pulmonary complications, on the one hand, or pneumonia with so-called typhoid symptoms on the other. When lobar pneumonia or bronchopneumonia occurs in the course of or following a disease, the primary cause should be entered first, with date of onset, and the lobar pneumonia or bronchopneumonia be entered beneath as the contributory cause, with date of onset. Do not report "hypostatic pneumonia" or other mere terminal conditions as causes of death when the disease causing death can be ascertained.

*U. T.* "Ptomaine poisoning," "Autointoxication," "Toxemia," etc.

*Why.* These terms are used very loosely and it is impossible to compile statistics of value unless greater precision can be obtained. They

should not be used when merely descriptive of symptoms or conditions arising in the course of diseases, but the disease causing death should alone be named. "Ptomaine poisoning" should be restricted to deaths resulting from the development of putrefactive alkaloids or other poisons in food, and the food should be named, as "Ptomaine poisoning (shellfish)," etc.

*U. T.* "Pulmonary congestion," "Pulmonary hemorrhage."

*Why.* See "Congestion," "Hemorrhage."

*U. T.* "Pyemia." See Septicemia."

*U. T.* "Salpingitis."

*Why.* To what was the "salpingitis" due? If of gonorrheal, syphilitic, puerperal, or traumatic origin, state the facts as fully as possible.

*U. T.* "Sclerosis."

*Why.* Was it sclerosis of the spinal cord or general arteriosclerosis?

*U. T.* "Septicemia," "Sepsis," "Septic infection," etc.

*Why.* Always state cause of this condition, and, if localized, part affected. Puerperal? Traumatic?

*U. T.* "Shock" (postoperative). See "Operation."

*U. T.* "Specific."

*Why.* The word "Specific" should never be used without further explanation. It may signify syphilis, tuberculosis, gonorrhea, diphtheria, etc. Name the disease.

*U. T.* "Stricture of the esophagus."

*Why.* What was the cause of the stricture? If due to congenital stenosis, scar tissue due to swallowing a corrosive substance, cancer of esophagus, or other discernible cause, state exact nature of same.

*U. T.* "Suicide."

*Why.* State means employed; e. g., drowning, gunshot, inhalation of gas, poisoning, etc. Always name the poison.

*U. T.* "Tabes."

*Why.* Tabes dorsalis should not be abbreviated to "tabes."

*U. T.* "Teething."

*Why.* See "Dentition."

*U. T.* "Toxemia." See "Ptomaine poisoning."

*U. T.* "Tuberculosis."

*Why.* The organ or part of the body affected should always be stated, as tuberculosis of the lungs, tuberculosis of the spine, tuberculous meningitis, acute general miliary tuberculosis, etc.

*U. T.* "Tumor," "Neoplasm," "New growth."

*Why.* These terms should never be used without

the qualifying words "malignant," "nonmalignant," or "benign." If malignant, they belong under the more exact terms "carcinoma," "sarcoma," etc. In all cases the organ or part affected should be specified.

*U. T.* "Uremia."

*Why.* Name the disease causing death—i. e., the primary cause, not the mere terminal conditions or symptoms—and state the date of onset of the primary cause.

*U. T.* "Uterine hemorrhage."

*Why.* See "Hemorrhage."

## CURRENT STATISTICS

### \*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

	Jan.	Feb.	Estimated Expectancy Feb.
Typhoid	8	9	16
Typhus	20	10	2
Malaria	61	95	55
Smallpox	3	3	19
Measles	79	134	718
Scarlet fever	56	112	89
Whooping cough	70	71	155
Diphtheria	80	83	114
Influenza	1180	5018	856
Mumps	386	510	101
Polio-myelitis	4	6	3
Encephalitis	2	1	3
Chickenpox	307	229	222
Tetanus	2	5	2
Tuberculosis	161	295	311
Pellagra	13	14	15
Meningitis	10	6	6
Pneumonia	916	1320	547
Syphilis	641	778	135
Chancroid	6	8	5
Gonorrhea	281	374	151
Ophthalmia neonatorum	1	1	1
Trachoma	0	0	1
Tularemia	2	3	1
Undulant fever	3	5	0
Dengue	0	0	0
Amebic dysentery	0	0	0
Rabies—Human cases	0	0	0
Positive animal heads	68	90	

\*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years. With the venereal diseases, clinic cases were not included prior to this year.

## Woman's Auxiliary

Mrs. Thos. E. Dilworth  
State Publicity Chairman  
Huntsville, Ala.

ELEVENTH ANNUAL REPORT OF THE PRESIDENT OF  
THE WOMAN'S AUXILIARY TO THE MEDICAL  
ASSOCIATION OF THE STATE OF ALA-  
BAMA, MONTGOMERY, ALA.,  
APRIL 21, 1936

As President of the Woman's Auxiliary to The Medical Association of the State of Alabama, I beg to submit the following annual report:

The Woman's Auxiliary to The Medical Association of the State of Alabama is guided by an advisory council of three members appointed by the President of the Medical

Association, and in all our endeavors we have enjoyed the full cooperation of the Association.

As President, I have visited six of our county auxiliaries and found them enthusiastic about their work and having very interesting meetings. As the Chairman of Organization was unable to function, I took over her work and have written a number of counties that have medical societies asking permission to organize the doctors' wives of their counties. I have written the Vice Presidents asking their aid in this work, and they too have written unorganized counties. I had letters asking for two organizations from doctors in these counties and personally visited the counties after writing each of the doctor's wives to meet me, and tried to organize them, being successful with one of them and believing that I have laid a good foundation for organizing the other, which I shall follow up, even though I may not be in the chair at that time.

I have written each auxiliary every month outlining the work that we felt was advisable and explaining to them each phase of the State program. Our Chairman of Programs has also sent each county a copy of our State program, asking that it be incorporated in their program as far as possible. I believe that our Program Chairman, Mrs. H. W. Allgood, has done a very fine piece of work. This is the first year that we have had a state-wide program. Mrs. Dilworth, our very efficient secretary, compiled and on her own typewriter made out a booklet of the minutes and reports of the last State Convention. I am very proud of this report of the proceedings of the last convention and believe that it has been a great help to our auxiliaries in informing them of what the counties are doing.

Several of our auxiliaries have helped put on the seal sale for the Red Cross and one auxiliary put the whole seal sale on for their county very successfully. One auxiliary operated a booth and sold more seals than any other organization, winning a cash prize for so doing which they generously turned into the seal sale fund. Many open meetings have been held with excellent programs on health given by our doctors. Mobile County sponsors a preventivo-



rium; other auxiliaries aid their local hospitals by donating linens and helping with the entertainment of their nurses. Calhoun County put on the graduating exercises and entertainment for the class graduating from their hospital.

At the request of the auxiliaries in convention in Mobile last spring and with the permission of the Advisory Council, I sent out copies of the sterilization bill to the members so that they might inform themselves and support this bill in Alabama. The Medical Association of the State of Alabama had recommended that we support it. We also sent out booklets and information dealing with social medicine to our auxiliaries recommending that they see that the students who were debating on social medicine in the high schools of the State be given information approved by the Association.

Practically all of the members of the Woman's Auxiliary to The Medical Association of the State of Alabama belong to several other clubs, one club reporting that among their members were thirty officers in other clubs. They have been instrumental in putting on health programs in their various clubs and seeing that approved information is given out in their clubs. Realizing that we must not neglect the social part of our program, banquets, luncheons, teas and many clever and original parties have brought our membership closer together.

As President of the Woman's Auxiliary, I have to the best of my ability represented the State in Atlantic City, where I had the honor of responding to the welcome address at the National Convention, in Chicago at the National Board meeting, and in St. Louis at the Convention of the Southern Medical Association. Your National President honored your State and me by appointing me her Revisions Chairman.

Another thing we have tried to do this year is to keep our doctors advised of our progress and to let them know that we are trying to serve them and are willing to do their bidding at all times. Dr. Cannon very kindly allotted us two pages in the Journal of the Medical Association of the State and we have used this to distribute news items that would be of interest to the doctors' wives of the State.

Alabama has a scholarship fund, the Let-

tie Daffin Perdue Fund, which is generously supported by each organized county. This scholarship is used by some doctor's son or daughter who would not otherwise have this advantage.

We have public relations chairmen in each auxiliary who function efficiently and do a good work. Unfortunately two small and weak counties have disbanded this year; one new county, Talladega, has been organized making ten organized counties in the State. We have not done all that we anticipated doing this year, but we believe that we have laid a good foundation and that we are progressing.

In closing, your President wishes to express her sincere thanks for the honor which you conferred upon her in electing her as your President and for the generous cooperation that has been given her by her corps of splendid officers who have so faithfully performed their respective duties. She is also grateful to Mrs. Denson, Past President, for much helpful advice. The past year has been full of wonderful experiences, privileges and opportunities. Friendships of previous years have been strengthened and new friendships formed.

Respectfully submitted,  
Louise Jordan, President.

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The Woman's Auxiliary to the Jefferson County Medical Society held its regular monthly meeting on Tuesday, February 11, at the home of Mrs. Gordon Goodall. Luncheon was served by Mrs. Goodall and her co-hostesses, Mesdames E. L. Norton, T. G. Albritton, O. P. Board, H. R. Farmer, E. H. Hargis, H. W. Allgood, E. P. Green, M. D. Clements and W. C. Deaver.

The guest speaker of the occasion was Dr. Clifford Lamar, who chose as his subject, "Childhood Tuberculosis," and also gave an interesting outline of the work of the tuberculosis clinic. The auxiliary is especially interested in this phase of the community medical problem, having included the Jefferson County Tuberculosis Sanatorium in its various philanthropic endeavors.

Others present at the meeting were Mesdames N. N. Wood, President; B. F. Posey, K. J. Kinkead, Tom Collins, B. O. Robert-

son, J. S. Jordan, George Warrick, J. E. Garrison, E. M. Scott, M. Davidson, W. W. Long, S. H. Wallace, Dan Coyle, Seale Harris, J. Chapman, S. U. Newfield, J. P. Robertson, R. M. Coston, D. F. Talley, G. S. Graham, S. R. Terhune, W. G. Harrison, Jr., J. E. Linn, A. L. Glaze, W. J. Rosser, Cas Reagan, W. H. Garlington, W. E. Prescott, Jr., E. G. Little, M. Y. Dabney and A. H. Green.

## Book Abstracts and Reviews

**Medical Treatment of Gallbladder Disease:** By Martin E. Reh fuss, M. D., Clinical Professor of Medicine at Jefferson Medical College, Philadelphia; and Guy M. Nelson, M. D., Instructor of Medicine at Jefferson Medical College, Philadelphia. 465 pages with 113 illustrations. Philadelphia and London. W. B. Saunders Company, 1935. Cloth, \$5.50 net.

Though a great deal has been written concerning the operative treatment of gallbladder disease, the literature is marked by a sparsity of books dealing with the medical phase. Doctors Reh fuss and Nelson have written a book describing the physiology, pathology, diagnosis and medical treatment of the gallbladder and have had vision enough to be able to describe accurately those conditions which necessitate surgical treatment rather than medical. With the modern methods of diagnosis of the diseases of the gallbladder, many conditions are being diagnosed in their incipient stage, at a stage when the pathology consists of mild infection and abnormal function, but without the presence of stones. No one is so radical as to suggest for these early cases operative removal of the gallbladder and few members of the profession have realized that there is available a method of medical treatment. In view of the fact that over half of the cases of indigestion are due to gallbladder disease, it is obvious that the field included in this volume is a large one. The book should prove of practical use to any physician who treats digestive disorders.

C. K. W.

**A Marriage Manual.** By Hannah and Abraham Stone. Simon and Schuster, publishers. New York City. 1936. Cloth. \$2.50.

From interviews with over 10,000 men and women, the authors have gathered together the most important and most frequently asked questions pertaining to sex and marriage. The questions, arranged in a logical manner, are answered clearly, concisely, simply. There is nothing technical in the answers yet they are scientifically accurate. The physician may become impatient with the interposition of questions, yet for the lay reader, this is probably an ideal method of presenting the subject matter. Prominent physicians, ministers and laymen have given their endorsement to this work. In the Community Church of New York and the Labor Temple, the Doctors Stone direct a Marriage Consultation Center. There they have had ample experience to enable them to put into a single book the chief questions asked them and the

answers as given in their work at these centers. As more and more, the importance of sex in marriage is realized, the value of books of this type to the profession will be recognized.

C. K. W.

**The National Formulary, Sixth Edition.** Prepared by the Committee on National Formulary, by authority of the American Pharmaceutical Association. Official from June 1936. Published by the American Pharmaceutical Association, Washington, D. C. 1935. Cloth. 556 pages.

The National Formulary consists of formulas for preparations of drugs which are used frequently within the United States but which are not included in the United States Pharmacopoeia. In addition, it sets standards of purity and tests for identification of the various ingredients. The last edition was published in 1926. The new sixth edition becomes official on June 1, 1936.

C. K. W.

**Complete Handbook on State Medicine:** By J. Weston Welch, Debater's Information Bureau, 45A Free State, Portland, Maine. Paper bound, 158 pages. First Copy \$2.50 extra copies \$.75.

This handbook is written primarily to furnish information to debaters in high schools and colleges to guide them in their debates. The author states that State Medicine was the subject of debate in over thirty-one of our states last year. The public is forming snap judgments, generally in favor of it. The profession on the whole is opposed to it, yet few of us can give good reasons for our opposition. The Complete Handbook on State Medicine will supply any interested physician with the reasons for and against the vital subject and he is better armed to defend his point of view who knows well the arguments of his opponents. Since we physicians are most interested in this problem, we might do well to prepare ourselves to take an active part in defending our point of view. Unless the medical profession moulds the attitude of the public, the lay press, the politician and various foundations will mould it in a manner far from our liking. This book contains ammunition—it is full of ideas with which we should be familiar.

C. K. W.

**An Introduction to Public Health.** By Harry S. Mustard, M. D., Associate Professor, Public Health Administration, The Johns Hopkins University; Director, Eastern Health District, Baltimore, Maryland; Lecturer on Public Health and Sanitation, The Johns Hopkins Hospital School of Nursing. Price \$2.50. Pp. 250, with 22 tables. New York: The MacMillan Company, 1935.

The book, "An Introduction to Public Health," is well developed and excellently written. As the author states in the foreword, it is designed to provide information rather than direction. The facts are laid down in an orderly manner. The reader does not need to scan through a great deal of extraneous material in order to glean what he wishes. Such expressions as "caught in the grip of routine," "a non-frozen perspective," and "the costs of admission to movie theatres are in inverse proportion to the human odors which one encounters" are typical of the literary style of the book.



To abstract a book, as well written as this, in a few words is a difficult task, and perhaps is unfair to the author. Several columns could be used. However, some of the highlights can be given in more limited space. What constitutes a public health problem, which includes the much debated medical care of the sick, is taken up in the opening chapter. The section on vital statistics is treated in an able fashion. Under organization and administration there are two pages on public health education which are well worth anyone's reading who wishes to put over an educational program. Sanitation is enlivened and brightened by the word picture descriptions of man's primitive settlements with their sanitary problems and hazards.

The wealth of expressions and the lack of monotony make this book attractive reading.

W. H. Y. S.

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**The Special Procedures in Diagnosis and Treatment:** By Don Carlos Hines, M. D., Clinical Instructor in Medicine, Stanford University. Stanford University Press, Stanford University, California. Spiral binding. 66 pages. Price \$1.00.

This little handbook presents, in outline form, the more common clinical methods indicated for undergraduates and internes. The author is his own best critic—in an apologia he “makes no pretense of being exhaustive—avoids multiplicity of methods accomplishing the same results.”

To his credit: pocket size, blank reverse page, an extensive bibliography and two worthy chapters on oxygen and carbon dioxide therapy. The reviewer would have had him include a chapter on anesthesia written in the same style, then this booklet would have been complete.

N. B.

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## Truth About Medicines

### PROPAGANDA FOR REFORM

Vitamin A and Urinary Lithiasis.—Urinary calculi were known in remote antiquity and have been studied as to cause and treatment throughout many centuries. Most of the possible or likely etiologic factors have been given serious consideration and support by different investigators at various times. That some abnormality of diet, for example, excess of mineral elements, improper balance of its constituents, especially the inorganic elements, presence in it of some special stone producing substance or other conditions affecting the diet might be the cause has been considered for a long time. The idea, however, that a specific deficiency of the diet might be the cause is relatively recent and is the direct outcome of observations and experiments made on animals. In 1917 attention was drawn to the probability that a deficiency

of a vitamin may be, at least indirectly, responsible for the formation of phosphatic urinary calculi in the rat. It was suggested that the calculi might be due, indirectly, to the effect of a deficiency of the fat soluble group of vitamins. Although a number of investigations have been made in regard to the cause and treatment of urinary calculi, the Council on Pharmacy and Chemistry decided that the existing evidence does not warrant claims for the use of any of the vitamins, and particularly of vitamin A in the prevention or treatment of urinary lithiasis and, further, that no such claims may appear in the advertising of accepted products. (J. A. M. A., December 14, 1935, p. 1983.)

The Potency of Ampoules of Pitressin. The Council on Pharmacy and Chemistry reports that in New and Nonofficial Remedies, 1935, the “pressor” potency of Ampoules of Pitressin (Parke, Davis & Co.) is defined as follows: “. . . each cubic centimeter contains 20 pressor units. . .” Too late for revision of this description, Parke, Davis & Co. informed the Council that the standardization of its product had been changed so that each cubic centimeter was to contain but 10 pressor units. Recently the firm informed the Council that it had decided to restore Ampoules of Pitressin to the original potency of 20 units per cubic centimeter and that therefore revision of the N. N. R. description would not be needed. In order that the medical profession might be informed, the Council has authorized publication of the foregoing statement. (J. A. M. A., February 1, 1936, p. 382.)

Trichloroethylene in Angina Pectoris.—A report appearing in the Associated Press news Dec. 30, 1935, contained the following statements:

“Instantaneous relief for the pain of angina pectoris and complete cure for most sufferers from the disease was claimed today by Dr. John C. Krantz, Jr., of the University of Maryland in a report which he read to the American Association for the Advancement of Science. The cure, he said, is a drug called trichloroethylene, one cubic centimeter of which is snuffed into the nose when the pains and heart compression of angina pectoris begin. It gives relief within one second.”

An inquiry was sent to John C. Krantz, Jr., Ph. D., professor of pharmacology at

the University of Maryland School of Medicine. Dr. Krantz replied as follows:

"My associates and I reported at the Section of Medical Sciences of the American Association for the Advancement of Science the mechanism of the action of trichloroethylene in the treatment of angina pectoris, which was studied clinically in the institution of Dr. William Love, Jr. . .

It is unfortunate that the Associated Press misinterpreted the presentation and stated that we had discovered a cure for the disease. Dr. Love's patients were relieved in most cases from the distress and apprehension of angina pectoris by the inhalation of 1 cc. of the drug, morning and evening. I shall be pleased if you will emphasize to those who inquire from you the fact that we have not discovered a cure for angina pectoris."

It may be pointed out that trichloroethylene is a drug to be prescribed with caution. (J. A. M. A., February 8, 1936, p. 485.)

Gould Negative Ion Process Not Acceptable.—The Gould Negative Ion Company, Boston, claims that "the negative ion process is an atmospheric electrical treatment, and is unlike any other kind of electrical therapy." Some of the therapeutic claims made for the Gould Negative Ion Process appear in the following excerpts from the company's advertising matter: "This process revitalizes the blood stream; it charges the blood with a normal supply of oxygen, thereby allowing the Red Blood Cells and the Hemoglobin to form its natural combination with oxygen, which increases the oxidation activity of the blood stream. The White Cells will return to normal faster than the Red Cells." "The process is harmless, it consists of visible vapor (not a medicine), that kills contagious and infectious germs." "PARTIAL LIST of Diseases Treated—This process has proven successful in treating Asthma and all respiratory diseases, Hypertension, Sinusitis, Rhinitis, Varicose Ulcer, Pyorrhea, Vincents Angina, Chronic Constipation, Nervous Disorders, some Skin Diseases and Arthritis. It gives almost immediate relief to sufferers from Hay Fever, and the relief lasts throughout the season." Critical or convincing evidence to substantiate the aforementioned therapeutic claims has not been made available to the Council on Physical Therapy. In the opinion of the Council, this advertising constitutes an appeal to the public with arguments that have not

been verified and may harmfully enhance the feeling of false security by those making use of the process. The Council on Physical Therapy has therefore voted not to include the Gould Negative Ion Process and unit in its list of accepted devices. (J. A. M. A., February 29, 1936, p. 706.)

Ephedritone Inhalant—Massey's Not Acceptable for N. N. R.—Under the name "Ephedritone Inhalant," the Massey Laboratories, Inc., Nashville, Tenn., presented for the consideration of the Council on Pharmacy and Chemistry a preparation stated to contain 1 per cent each of ephedrine and chlorbutanol in an aromatic base, proposed for use "in congested conditions of the mucous membranes." The aromatic base is stated to contain a "stabilized vegetable oil" the nature of which was not specified. The Council accepts no products the composition of which is not adequately declared. According to the advertising, "Clinical tests made by leading specialists prove that the synergistic effects of Ephedrine and Chloretone give a prolonged contraction of capillaries and prolonged reduction of swollen turbinates *without irritation*." The Council is not aware of any convincing evidence that there is synergistic action between the two drugs. Perhaps the chief objection to this product from the Council's point of view is the use of the coined proprietary name Ephedritone for an unoriginal mixture of well known drugs. "Ephedritone" also carries a therapeutic suggestion, a fact that considerably aggravates its offense to rational therapeutics. Although it has been informed of the Council's objections to the product for more than a year, the firm has taken no steps to make it acceptable. The Council voted therefore to declare Ephedritone Inhalant-Massey's unacceptable for inclusion in New and Non-official Remedies, and authorized publication of this report. (J. A. M. A., February 22, 1936, p. 617.)

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### UTERINE CONTRACTION RINGS

#### REPORT OF EIGHT CASES

By

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Uterine contraction rings are not a common complication of labor but when they do arise they constitute a formidable impediment to successful delivery. As the literature on this subject has been quite sparse, the purpose of this paper is to report eight additional cases and to discuss briefly a few salient points in treatment and prophylaxis.

Weiss has reviewed in detail the few contributions that appeared in the literature prior to 1933. He reports the condition as having been recognized and described as early as 1743.

White in 1913 collected a series of 90 cases for statistical study; and Michael in 1925 reported a similar collected series of 40 cases.

The complexity of the uterine musculature has long been recognized. It is generally acknowledged that the predominant muscle cell in the upper segment, the contractile portion of the uterus, is of the longitudinal type, while the majority of the muscle fibers of the more passive lower uterine segment are circular. The basic cause of various uterine rings which may form during labor is the continued contractile and retractile effects of the active upper segment upon the passive lower segment.

Much confusion exists relative to terminology. Contraction, retraction, Bandl's, and hour-glass are all descriptive terms

which have often been incorrectly used to designate various types of rings. For purposes of discussion we may assume that most rings are either contraction or retraction rings. Weiss differentiates clearly and concisely. He says, "Retraction ring should only apply to a condition where the upper uterine segment and ring are periodically contracting, retracting, and relaxing, and where canalization of the cervix and retraction of the lower uterine segment are proceeding normally. The term tetanospasmodic (contraction) ring should apply to a condition where the upper uterine segment contracts and relaxes typically or atypically, but where the ring has contracted into a state of tetanic spasm and is not being retracted and where the lower uterine segment is in a more or less flaccid state and is also not being retracted." A Bandl's ring should thus be classified as a physiologic retraction ring. Such rings have neither the pathologic significance nor clinical potentialities of a real contraction ring.

Prominent among possible etiologic factors should be listed:

- (1) Prolonged labor of any origin but especially that due to fetal malposition or malpresentation, cephalopelvic disproportion, or pathologic cervix;

- (2) Premature rupture of membranes, especially in primiparae; and

- (3) The careless use of oxytoxics or premature voluntary maternal effort.

The usual symptomatology is strikingly uniform in the latter stages of ring formation. Prolonged labor with early rupture of the membranes is the usual history. Cervical dilatation no longer progresses. The lower abdomen becomes very tender even between the ineffectual, though sometimes strong, uterine contractions. Signs of fetal life are often absent. Abdominal grooves

\*From the Department of Obstetrics, Norwood Clinic and Hospital; and the Obstetrical Service, Hillman Hospital.

\*Read by invitation before the Jefferson County Medical Society, Birmingham, April 1936.

or furrows may be present. Slight fever may be present and pulse is often very rapid. Complete exhaustion and shock are not uncommon. Pelvic examination shows the presence of a firm, non-yielding constricting ring about the fetal neck, preventing the downward passage of the fetal shoulders and through which the fetal vertex may not be pushed back into the uterus proper.

Few obstetric complications present a more difficult delivery problem or a more uncertain prognosis. A first question is whether the delivery should be attempted through the normal passages or through the abdomen. The latter route is seldom desirable because of the duration of labor, premature rupture of membranes, cervical dilatation, and often previous attempts at delivery. If the vaginal route is selected, a second question is whether to attempt immediate delivery or to defer the attempt for a few hours. Although I have had very little success with rest periods for actual relaxation of the ring, the administration of intravenous glucose during such a rest period has been invaluable in combating maternal shock and fatigue. Useful agents in securing the rest period are morphine, hyoscine, magnesium sulphate, the various barbiturates, and adrenalin. Eventually a delivery must be attempted even though the ring may show no signs of weakening. At this time, very deep ether anesthesia, with atrophine or adrenalin, may be administered several minutes prior to the delivery attempt. Amyl nitrite inhalations and spinal anesthesia have been suggested. I have used neither for this purpose. If the cervix has remained incompletely dilated (and bags will dilate such cervixes), Dührssen's incisions may be necessary but of course will not affect the ring. Traction with forceps will now encounter the resistance of fetal shoulders to the ring and often version is absolutely impossible. If traction and attempted version both fail, embryotomy or Porro section will be the only alternatives and of these two the former, if feasible, is much safer for the mother after such a labor.

Occasionally the third stage may be unduly prolonged and hemorrhage may necessitate the undesirable manual removal of the placenta. This dangerous procedure

is doubly hazardous after such a labor and should not be lightly undertaken. If uterine rupture is reasonably suspected, intra-uterine palpation may be indicated, although it is definitely most dangerous. Cervical lacerations should not be repaired unless hemorrhage demands it and perineal repairs should not be prolonged. Immediately following delivery, routine shock measures are usually necessary.

The question of cesarean section may arise when a ring of formidable proportions is encountered. As most such patients are seen late in labor and after many pelvic examinations, the maternal risks of cesarean of any type would be tremendous. I consider abdominal intervention seldom, if ever, justified in such cases. The maternal prognosis, and not the fetal, should be the primary consideration. I have never seen an instance of a ring developing in front of a presenting vertex. Should this occur and the complication be recognized early, low cervical section might warrant favorable consideration.

By far the most important consideration of contraction ring is the prophylaxis. As a common finding is prolonged labor, it naturally follows that prevention of excessively long labor is an important factor in successful prophylaxis. Any patient with prolonged labor and premature rupture of membranes may thus be considered one of potential contraction ring formation. An opposite interpretation may of course be placed upon this relationship. It may be contended that prolonged labor may be the result and not the cause of contraction ring formation. In this connection it might be pointed out that most cases of prolonged labor do not terminate in contraction ring formation but that in those cases, where ring is evident, labor has usually already been prolonged before a diagnosis of ring is made. Although no rules may be formulated as to when labor becomes too prolonged, my own eight cases would seem to definitely indicate that ultraconservatism may sometimes prove just as disastrous as more active intervention.

Persistent occipito-posterior position is a frequent cause of prolonged labor. The major portion of such cases may usually be carried on to complete cervical dilatation, even though additional sedation is often



necessary for the prolonged first stage. It is considered sane obstetric practice to promptly deliver if no appreciable progress is made within the first sixty to ninety minutes after complete dilatation. Manual rotation, modified Scanzoni rotation with forceps, or version are the delivery methods usually resorted to. If the first stage becomes unduly prolonged, even after adequate sedation, bags will usually be effective in the completion of this stage.

The frequency with which bags were employed in my own small series may possibly suggest the question of bags themselves being an etiologic factor in ring formation. I do not so consider them and have no hesitancy in resorting to them when indicated. In two of my cases bags were inserted before a definite diagnosis of ring was made but in both patients labor had already been prolonged and this prolongation was the most likely factor rather than the coincidental use of bags.

Pelvic disproportion may also prolong labor. Careful pelvimetry during the prenatal period should reveal this complication before the onset of labor. In those few borderline cases where a labor test seems indicated such a test should not be unduly prolonged if progress is not evident. The combination of pelvic disproportion and fetal malpresentation or malposition will more frequently demand elective cesarean rather than a test of labor, possibly to be terminated by laparotrachelotomy.

Pathologic cervixes, although an often abused diagnosis and flimsy excuse for cesarean, may at times occasion much delay during the first stage of labor. First stages are frequently seen in which the only explanation for delay is a cervix which dilates with marked difficulty, even though contractions are adequate, pelvis is ample, and presentation and position are normal. Sedation and waiting will usually reward us in these cases but a few will necessitate either bagging, Dührssen's incisions, or vaginal section. These latter two operations are indicated only after full cervical effacement. If effacement does not occur, laparotrachelotomy may rarely be the better part of valor.

Premature rupture of membranes is common in all cases of ring yet reported. Several articles advocating rupture of membranes as a method of labor induction have

appeared in recent literature. Although the end results of this careful work seem satisfactory, careless routine resort to this method will eventually lead to the formation of many contraction rings. Personally I feel that the amniotic bag of waters has specific functions during labor and should, if possible, be preserved intact until completion of the first stage.

One last point in prophylaxis concerns needless uterine stimulation. The evils of improper use of pituitrin during labor are manifold but unfortunately little heed is sometimes paid to past disasters when the drug is routinely used during labor. Although pituitrin is invaluable when correctly used, its indiscriminate use is inexcusable. A normally contracting uterus needs no medicinal stimulation and if contractions are of such poor quality that recourse to pituitrin is considered, morphia will usually be more suitable. Premature voluntary maternal effort is also unwise. "Bearing down" before completion of the first stage is not only needless but often harmful. It is needless because cervical effacement and dilatation require normal uterine contractions over a given period of time; it is harmful because such futile effort exhausts maternal strength, may result in needless cervical trauma, and, like pituitrin, may initiate intracranial fetal damage.

#### SUMMARY

1. Uterine contraction rings, while relatively infrequent, may constitute formidable labor complications.

2. Prognosis is always uncertain and curative measures are often unsatisfactory.

3. Most such cases are probably best treated by conservative means with eventual delivery from below.

4. A few exceptional cases may be suitable risks for low cervical cesarean but never for classical section.

5. The gravity of the complication will occasionally necessitate a disregard of fetal prognosis.

6. Immediate puerperal complications are often shock and hemorrhage, with or without uterine rupture; frequent delayed complications are sepsis and traumatic sequelae.

7. Prophylaxis is the most important feature of the entire subject. Prominent

in successful prophylaxis is the prevention of any undue prolongation of labor.

#### REPORT OF CASES

*Case 1.* Consultation. Colored primipara, age 25, hospital admission after labor of 56 hours, membranes ruptured 18 hours, several doses of pituitrin but no progress.

Evident distress. Temperature 101.3, pulse rapid and thready—other shock signs. Tenderness over entire lower abdomen with shifting dullness both flanks. No abdominal furrows. No signs of fetal life. Offensive vaginal discharge. Normal pelvic measurements. Cervix  $3\frac{1}{2}$  fingers, margins thin. Contraction ring firm about fetal neck vertex presentation.

Impression: Patient in shock from terribly long labor. Dead fetus. Intra-uterine infection. Contraction ring. Ruptured uterus (?).

Treatment: Immediate delivery impossible because of general condition of patient; to have period of rest followed by attempted delivery from below. Glucose, morphia, adrenalin, and amytal.

Result: Died one hour and fifteen minutes after hospital admission.

Autopsy: Semi-necrotic uterus ruptured when attempt was made to deliver it through the abdominal incision. Gas and foul fluid. Definite acute endometritis. Contraction ring at level of lower uterine segment was still firmly clamped about fetal neck postmortem.

Comment: Hopeless case and true obstetrical tragedy.

*Case 2.* Consultation. Primipara, age 26, labor of 37 hours, membranes ruptured 15 hours, morphia, no pituitrin.

Exhausted and in shock. Slight fever. Slight uterine contractions. Fetal heart 180 per minute. Presenting vertex above level ischial spines in L. O. T. position. Cervix 4 fingers, thin margins. Offensive discharge. Contraction ring about fetal neck. C. V.  $8\frac{1}{2}$  cm., bi-ischial 9 cm.

Impression: Prolonged labor, contraction ring, simple flat pelvis, potential infection, and baby in only fair condition.

Treatment: Rest period of 4 hours with morphia, adrenalin, glucose and hyoscine, followed by difficult high forceps delivery. Cervix gave no trouble but ring and pelvis did. Perineal laceration and separation of symphysis pubis.

Result: The large baby died thirty minutes after delivery with rather definite signs of intracranial hemorrhage. Mother recovered after stormy puerperium. Belt fitted for pelvic separation. X-ray several months later showed some apparent union.

Comment: Bad combination of prolonged labor, cephalopelvic disproportion, and contraction ring formation. Laparotrachelotomy probably would have saved the baby but only at a terrific maternal risk.

*Case 3.* Consultation. Multipara, age 28, labor of 23 hours, membranes ruptured 9 hours, complete cervical dilatation 5 hours.

Impression: Persistent right occipito-posterior, complete cervical dilatation, contraction ring about

fetal neck, normal pelvis, and baby in good condition.

Treatment: Deep ether anesthesia and adrenalin, modified Scanzoni forceps rotation with re-application of blades. Some trouble with fetal shoulders. Third stage prolonged. Intramuscular blood given baby.

Result: Mother and child both did well.

*Case 4.* Private case. White, primipara, age 24. Early spontaneous rupture of membranes, cervix slow to dilate due in part to persistent occipito-posterior. Bag inserted after 11 hours slow progress. Definite contraction ring at time of delivery 6 hours later.

Treatment: Deep ether anesthesia and adrenalin. Modified Scanzoni forceps rotation with re-application of blades, episiotomy.

Result: Mother and child both did well.

Comment: These latter two cases illustrate the value of early diagnosis of persistent occipito-posterior position and the importance of considering possible contraction ring formation if labor becomes too prolonged.

*Case 5.* White primipara, age 26, normal pelvic measurements. Eleven (11) hours after hospital admission and 9 hours after rupture of membranes attending physician inserted small bag because of no progress in spite of good contractions. Examination 5 hours later showed more cervical dilatation but definite contraction ring formation.

Larger bag now inserted. Complete dilatation 4 hours later. Rest period of 4 hours failed to relax ring. Difficult version resulted in stillborn baby and small incomplete uterine rupture in left lower segment. Uterus packed.

Result: Mother had afebrile puerperium.

*Case 6.* Colored, para 3, age 28. Admitted to local City Hospital after labor of 31 hours during the course of which several doses of pituitrin were given and two attempts at forceps delivery made. Membranes thought to have ruptured 18 hours prior to hospital admission.

Findings: Temperature 103.4, pulse 130. Uterus almost in tonic spasm. No evidence of fetal life. Cervix 4 fingers, and portion of it missing. Foul vaginal discharge. Firm contraction ring about fetal neck-vertex.

Treatment: Rest period with morphia, hyoscine, adrenalin and glucose. No change in ring 3 hours later. Difficult version, stillborn baby. Third stage slightly prolonged but otherwise normal. No cervical repair attempted because of rather obvious infection.

Result: Lochia most foul on second postpartum day. Temperature 104. Continued hectic temperature. Blood culture sixth day positive for *Streptococcus viridans*. Three blood transfusions. Died of sepsis on eighth day.

Comment: Infected at time of hospital admission. Careless use of pituitrin and forceps.

*Case 7.* Consultation. White multipara, age 31. Went past estimated date of confinement 3 weeks. Admitted after labor of 20 hours and 9 hours after rupture of membranes. No progress.

Findings: Temperature 100.3, pulse 90. Baby



seemed large. Fetal heart 170 per minute but sounds faint. Cervix 4 fingers. Position R. O. A. Marked contraction ring about fetal neck.

Treatment: Rest period of 4 hours with morphia, amytal, adrenalin, and glucose. Deep ether anesthesia and more adrenalin followed by difficult version and breech extraction. Ring again contracted before completion of third stage. Imprisoned placenta and excessive hemorrhage necessitated manual removal and packing 25 minutes later.

Result: Baby had rapid heart beat for 7 minutes but could not be resuscitated even with tracheal catheter in place. Actual weight of baby 11 pounds, 4 ounces. Mother's puerperium afebrile after third day.

Comment: Questionable postmaturity of fetus.

Case 8. Private patient. White primipara, age 31, normal pelvic measurements. Membranes ruptured 4 hours prior to hospital admission. Moderate pains with little progress 14 hours. Position L. O. T. Rest period 7 hours. Pains resumed 6 hours. Little progress and beginning contraction ring formation. Bag inserted. Deep ether and adrenalin necessary at time of version delivery 5 hours later.

Result: Both mother and baby did well.

TABLE 1

	Labor Including Rest	Time Diagnosis	Time Membranes Had Been Ruptured When Diagnosis Made
1.*	57	56	18
2.*	41	37	15
3.*	23	23	9
4.	17	15	15
5.*	24	16	14
6.*	34	31	18
7.*	24	20	9
8.	32	27	10

\*Consultation case.

TABLE 2

	—Maternal Mortality—		—Fetal Mortality—	
	With Laparotomy	Without	With Laparotomy	Without
White (1913)				
90 cases	31.5%	53%	42%	63%
Michael (1925)				
40 cases	33%	20%	40%	86%
Boulware (1936)				
8 cases		25%		62%

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## ULCERS OF THE LEG

By

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Since varicose ulcers of the leg are much more commonly encountered than other types, most of this paper will be devoted to a discussion of them; and others, incidentally, in relation to them.

Varicose ulcer may be one of the most severe and disabling conditions of the lower extremity. It is an end result of a tropho-neurotic disturbance in the leg and foot, resulting from the stagnation of blood serum in the tissues secondary to varicose veins. Of more than one thousand cases reviewed in England by Luff, 93.4% of the patients were found to have been occupied in work that enforced long standing with little action of the leg muscles. The condition occurs almost twice as frequently in women as in men. Approximately one-third of the cases seen are in persons between fifty and sixty years of age; an incidence decidedly greater than in any other decade of life.

While the ultimate cause of a varicose ulcer is varicose veins there are also exciting mechanistic factors with which one must deal. The story of a slight abrasion immediately preceding the actual ulcer formation is usually related. Besides trauma the immediate cause may be hemorrhoids, bad teeth or an infected embolus from diseased tonsils.

In brief one may say that stagnation of blood in a lower extremity leads to an abolition of the difference of pressure between the blood in the veins and the fluid in the tissues. These tissues then become waterlogged, their resistance to trauma and infection is lowered and the stage is set for ulcer formation.

The formation of an ulcer leads to both destructive and reparative processes. The tissues become indurated and this tends to further deplete the affected area of its blood and lymph circulation. After such an area has been the seat of ulceration several times, even when no ulcer is present, the skin may be in a state of potential gangrene.

Actual ulceration begins with gangrene and a separation of the superficial layers of the skin; at times the area takes on the

appearance of a typical carbuncle. Later the ulceration may involve all the dermal layers and a periostitis is sometimes demonstrable in the x-ray. Occasionally one encounters a condition in which the whole of the leg and foot have the appearance of a far advanced, weeping eczema with multiple ulcerations.

Microscopic study of the tissues involved has shown the pathology to be chiefly in the skin and only an inflammatory reaction beneath. Many varieties of micro-organisms are found commonly and constantly. The type and number of organisms as a rule have little bearing on the progress of the healing.

The symptomatology of the condition varies greatly. A person with long standing varicose veins, attended by many and severe symptoms or none at all, may present anything from an abrasion of the superficial skin to gangrene of a large part of the limb. It has been observed that there is no direct connection between the extent of the varicosities and susceptibility to ulcer formation. The associated phlebitis and cellulitis seemingly account for the pain and are almost always present with a well developed ulcer.

The pain can best be ameliorated by rest, elevation of the limb, or support to the leg applied by means of a supporting dressing. This fact seems to lend confirmation to McPheeters' theory that the pain is due to increased pressure on the fine, terminal, inflamed elements of the nerves in the ulcer region.

Intense itching is usually found in the cases in which an associated eczematoid condition exists.

We should always consider that varicose ulcers with their attendant discharges are unsightly and may have a profound effect on the patient's mental attitude.

The diagnosis of this condition is usually easy. Varicose ulcers are by far the most common type encountered on the leg. They are usually tender, painful, and surrounded by an area of inflammation. The skin generally has a brownish-copper discoloration in the vicinity of the ulcer. It may be of any size, shape, or condition. The edges are usually sloping and the base covered with a greyish exudate and, if of long standing, coarse granulations. These ul-

cers are found most often on the inner and lower one-third of the leg. Except in some few cases of advanced eczema, and those in which the edema of the limb is very marked, the dilated and tortuous veins are easily demonstrable.

The differential diagnosis should not offer too much difficulty. Syphilitic ulcers have a punched out, sharply defined edge which at times is raised. They are ordinarily deeper than ulcers arising from other causes. The base is dark red and has large granulations which bleed very easily. Much serum exudes from the surface. The Wassermann or Kahn test will be of aid in the diagnosis and often a history of the original infection will be given.

Tuberculous ulcer of the lower extremity is uncommon. When found the edges are undermined, the base covered with a greyish exudate. They usually occur on the lateral surfaces of the leg in the middle or upper third. Tuberculosis elsewhere in the body and the absence of varicosities would lead to such a diagnosis. Bazin's ulcers are classed by some as tuberculous and as "para-tuberculous" by others. They are clinically like tuberculous ulcers, but appear on the legs of young girls, often those with tuberculous adenitis. They are rare.

Rodent or malignant ulcers are infrequent on the lower extremities though common elsewhere. They occur in old people and lack the inflammatory reaction of the varicose ulcer. There would be more likelihood of finding them on the base of an old burn scar than elsewhere and biopsy would be the most practical means of identity.

The actinomycotic ulceration starts as a nodule, subsequently breaking down leaving a necrotic base with scattered yellowish nodules. This type of ulcer on the lower extremity is very rare and then seen almost exclusively in hide-handlers. The diagnosis is to be made by the demonstration of the ray fungus from the ulcer bed.

Trophic ulcers can usually be distinguished after a consideration of the history of the case.

Other types of ulcers, as those following burns, roentgen-ray exposure, self-inflicted injuries, excessive doses of bromides, thyroid disease and sickle-cell anemia, are not only extremely uncommon but can be recognized by the history and physical characteristics.



The treatment of varicose ulcer may be conveniently divided into three types: prophylactic, active and palliative. Considering them in reverse order it may be generalized that palliative treatment is indicated in the extremely aged, and the sufferers from any disease or condition that contraindicates injection treatment of the varicosities. Palliative treatment is to be divided into ambulant and bed treatment. Rest, elevation of the limb, ultraviolet light, vaccines, and, occasionally, skin grafts are used in the treatment of those situated so that they may enjoy the luxury of hospitalization. Medicinal salves and powders are constantly waning in popularity among those who seem to know best how to treat these ulcer patients. The ambulant patient is best treated by the application of a supporting elastic dressing such as that advocated by McPheeters or Wright. These are but variants of the classical Unna's boot.

Active treatment is now available and remedial for a great majority of the patients. The treatment must of course be varied for different types of cases and each patient, in a sense, forms a type unto himself. In a vast majority of cases the application of a very snug fitting elastic bandage made of an adhesive material will lead to subsidence of the inflammation to such extent that the varicosities may be injected with less danger in a few days than at the first visit. Injections are followed (and preceded) by the application of the supporting bandage. By this method most of the cases, which a few years ago were considered eligible only for palliation, are now being healed. Phlebolithiasis, eczema, and even pigmentation, which were considered complications too severe to allow injection treatment, are ignored by some excellent workers in this field.

Skin grafting of the pinch type will often bring about closure of a wound weeks before the natural epithelization would take place. Ligation of the long saphenous vein at the fossa ovalis will at times seem indicated but it is hard to convince a patient of this fact when he sees an indolent ulcer making progress under a regimen of support and injection. Other operative procedures, as those of Babcock, Trout, Jones and Leriche, are now seldom resorted to.

Exposure of the affected leg to ultraviolet radiation between dressings is used with

some advantage by a few workers. Arsenicals and the heavy metals are to be used in those cases in which the condition is complicated by syphilis. A few reports in the literature seem to indicate that a calcium imbalance is a hindrance to the healing of an otherwise usual varicose ulcer, and that the injection of parathyroid extract leads to improvement.

Following the healing of the ulcer it is of the utmost importance that a thorough search be made for overlooked varicosities and these sclerosed. At times it will be necessary for the patient to wear a supporting dressing the remainder of his life.

The prevention of varicose veins by proper leg exercises, the avoidance of constricting garters, the removal of abdominal tumors causing pressure symptoms and the abolition of constipation seems the Utopian dream far from realization in our time. Of more immediate benefit to the cause will be the early recognition of varicose veins and the obliteration of these by sclerosing injections.

The fact that the treatment of such a condition necessitates the patient returning to the physician many times should bring to mind the necessity for our exercising the art as well as the science of medicine.

The treatment to be used in each case will require a decided amount of that indefinable quality known as "surgical judgment," if one is to get highly gratifying results.

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## BLOOD PLATELET NUMBERS IN NORMAL MEN AND WOMEN

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The blood platelets are of interest as to (a) structure, (b) size, (c) origin, (d) functions, and (e) numbers in normal blood. The factors of structure, size, origin and functions appear to have been determined with a fair degree of accuracy, while the factor of numbers in normal blood is not agreed upon.

Some standard works give the following:

Howell—300,000, with extremes ranging from 200,000 to 778,000.

Zoethout—500,000.

Todd and Sanford—250,000 to 350,000.

Maximow-Bloom—250,000.

Crandall—200,000 to 400,000.

Emden—180,000 to 250,000.

Kemp and Calhoun—869,000.

Osler—250,000.

A study of the above table shows a greater range of normal numbers than one might expect.

It was the purpose of this study to determine the blood platelet numbers in a group of college men and women. The persons at the time of the study were living the normal routine of college life.

Both the men and the women were given physical examinations which included heart rate, blood pressure, blood picture (red cell, total and differential white cells and hemoglobin) and urine. Only those who proved to be the average normal were employed. The results obtained therefore may be considered to be normal. The counts were made:

(1) At a definite hour from week to week.

(2) At different periods within a day.

The work was divided into two series:

(1) Ten men over a period of ten weeks. The results are recorded in tables of Series A and A-1.

(2) Five women over a period of five weeks. The results are recorded in the tables of Series B and B-1.

The general method of counting platelets as outlined by Todd and Sanford was used. After several preliminary counts, using the diluting fluids of Wright and Kinnicutt, Leake and Guy, and Rees and Ecker, it was decided to use the Rees and Ecker fluid throughout the work.

### SERIES A

This series of tables gives the results of the counts made from week to week on men.

#### Subject Number One

Week	Count
First	415,000
Second	510,000
Third	350,000
Fourth	350,000
Fifth	330,000
Sixth	390,000
Seventh	400,000
Eighth	350,000
Ninth	380,000
Tenth	290,000

Average.....376,500

#### Subject Number Two

Week	Count
First	355,000
Second	400,000
Third	360,000
Fourth	370,000
Fifth	420,000
Sixth	390,000
Seventh	290,000
Eighth	420,000
Ninth	330,000
Tenth	350,000

Average.....368,000



*Subject Number Three*

Week	Count
First	405,000
Second	564,000
Third	360,000
Fourth	390,000
Fifth	320,000
Sixth	370,000
Seventh	300,000
Eighth	370,000
Ninth	390,000
Tenth	320,000
Average	389,000

*Subject Number Four*

Week	Count
First	455,000
Second	450,000
Third	460,000
Fourth	230,000
Fifth	330,000
Sixth	390,000
Seventh	330,000
Eighth	400,000
Ninth	340,000
Tenth	300,000
Average	372,000

*Subject Number Five*

Week	Count
First	385,000
Second	440,000
Third	580,000
Fourth	370,000
Fifth	370,000
Sixth	360,000
Seventh	375,000
Eighth	310,000
Ninth	330,000
Tenth	390,000
Average	390,000

*Subject Number Six*

Week	Count
First	385,000
Second	565,000
Third	350,000
Fourth	330,000
Fifth	310,000
Sixth	300,000
Seventh	385,000
Eighth	360,000
Ninth	440,000
Tenth	350,000
Average	377,500

*Subject Number Seven*

Week	Count
First	420,000
Second	450,000
Third	230,000
Fourth	330,000
Fifth	320,000

Sixth	450,000
Seventh	370,000
Eighth	290,000
Ninth	340,000
Tenth	360,000
Average	356,000

*Subject Number Eight*

Week	Count
First	435,000
Second	415,000
Third	410,000
Fourth	360,000
Fifth	350,000
Sixth	410,000
Seventh	380,000
Eighth	360,000
Ninth	290,000
Tenth	310,000
Average	372,000

*Subject Number Nine*

Week	Count
First	465,000
Second	405,000
Third	470,000
Fourth	370,000
Fifth	360,000
Sixth	340,000
Seventh	370,000
Eighth	320,000
Ninth	430,000
Tenth	380,000
Average	391,000

*Subject Number Ten*

Week	Count
First	310,000
Second	306,000
Third	270,000
Fourth	340,000
Fifth	400,000
Sixth	300,000
Seventh	380,000
Eighth	300,000
Ninth	390,000
Tenth	400,000
Average	339,000

RECAPITULATION OF AVERAGES IN SERIES A

Subject Number	Average Count
" 1	376,500
" 2	368,000
" 3	389,000
" 4	372,000
" 5	390,000
" 6	377,000
" 7	356,000
" 8	372,000
" 9	391,000
" 10	339,000
Group Average	373,000

SERIES A-1

This series of tables gives the results of the counts made at different periods within the day on men.

Subject Number One

Time	Count
10:00 A. M.	395,000
2:00 P. M.	350,000
4:00 P. M.	360,000
Average	368,000

Subject Number Two

Time	Count
10:00 A. M.	400,000
2:00 P. M.	350,000
4:00 P. M.	350,000
Average	366,000

Subject Number Three

Time	Count
10:00 A. M.	360,000
2:00 P. M.	410,000
4:00 P. M.	390,000
Average	386,000

Subject Number Four

Time	Count
10:00 A. M.	370,000
2:00 P. M.	400,000
4:00 P. M.	310,000
Average	360,000

Subject Number Five

Time	Count
10:00 A. M.	410,000
2:00 P. M.	350,000
4:00 P. M.	380,000
Average	380,000

Subject Number Six

Time	Count
10:00 A. M.	380,000
2:00 P. M.	410,000
4:00 P. M.	350,000
Average	380,000

Subject Number Seven

Time	Count
10:00 A. M.	360,000
2:00 P. M.	350,000
4:00 P. M.	370,000
Average	360,000

Subject Number Eight

Time	Count
10:00 A. M.	400,000
2:00 P. M.	350,000
4:00 P. M.	350,000
Average	366,000

Subject Number Nine

Time	Count
10:00 A. M.	390,000
2:00 P. M.	360,000
4:00 P. M.	380,000
Average	373,000

Subject Number Ten

Time	Count
10:00 A. M.	360,000
2:00 P. M.	400,000
4:00 P. M.	350,000
Average	370,000

RECAPITULATION OF AVERAGES IN SERIES A-1

Subject Number	Average Count
" 1	368,000
" 2	366,000
" 3	386,000
" 4	360,000
" 5	380,000
" 6	380,000
" 7	360,000
" 8	366,000
" 9	373,000
" 10	370,000
Group Average	370,000

SERIES B

This series of tables gives the results of the counts made from week to week on women.

Subject Number One

Week	Count
First	300,000
Second	335,000
Third	300,000
Fourth	400,000
Fifth	430,000
Average	363,000

Subject Number Two

Week	Count
First	330,000
Second	260,000
Third	300,000
Fourth	320,000
Fifth	300,000
Average	302,000



*Subject Number Three*

Week	Count
First .....	340,000
Second .....	320,000
Third .....	340,000
Fourth .....	250,000
Fifth .....	400,000
Average.....	330,000

*Subject Number Four*

Week	Count
First .....	310,000
Second .....	320,000
Third .....	300,000
Fourth .....	320,000
Fifth .....	330,000
Average.....	316,000

*Subject Number Five*

Week	Count
First .....	400,000
Second .....	290,000
Third .....	320,000
Fourth .....	350,000
Fifth .....	280,000
Average.....	328 000

RECAPITULATION OF AVERAGES IN SERIES B

Subject Number	Average Count
" 1.....	363,000
" 2.....	302,000
" 3.....	330,000
" 4.....	316,000
" 5.....	328,000
Group Average.....	327,890

SERIES B-1

This series of tables gives the results of the counts made at different periods within the day on women.

*Subject Number One*

First Day Time	Count
10:00 A. M.....	320,000
2:00 P. M.....	400,000
4:00 P. M.....	360,000
Average.....	360,000

Second Day

Time	Count
10:00 A. M.....	390,000
2:00 P. M.....	340,000
4:00 P. M.....	360 000
Average.....	363,000
Average for Two Days .....	361,000

*Subject Number Two*

First Day Time	Count
10:00 A. M.....	320,000
2:00 P. M.....	330,000
4:00 P. M.....	310,000
Average.....	320,000

Second Day

Time	Count
10:00 A. M.....	300,000
2:00 P. M.....	340,000
4:00 P. M.....	350,000
Average.....	323,000
Average for Two Days.....	321,000

*Subject Number Three*

First Day Time	Count
10:00 A. M.....	310,000
2:00 P. M.....	320,000
4:00 P. M.....	300,000
Average.....	310,000

Second Day

Time	Count
10:00 A. M.....	360,000
2:00 P. M.....	340,000
4:00 P. M.....	350,000
Average.....	350,000
Average for Two Days.....	330,000

*Subject Number Four*

First Day Time	Count
10:00 A. M.....	310,000
2:00 P. M.....	340,000
4:00 P. M.....	340,000
Average.....	330,000

Second Day

Time	Count
10:00 A. M.....	340,000
2:00 P. M.....	320,000
4:00 P. M.....	300,000
Average.....	320,000
Average for Two Days.....	325,000

*Subject Number Five*

First Day Time	Count
10:00 A. M.....	330,000
2:00 P. M.....	320,000
4:00 P. M.....	340,000
Average.....	330,000

Second Day Time	Count
10:00 A. M.....	400,000
2:00 P. M.....	330,000
4:00 P. M.....	350,000
Average.....	353,000
Average for Two Days.....	341,000

## RECAPITULATION OF AVERAGES IN SERIES B-1

Subject Number	Average Count
" 1.....	361,000
" 2.....	321,000
" 3.....	330,000
" 4.....	325,000
" 5.....	341,000
Group Average.....	335,000

## SUMMARY

1. *Men Subjects*

- a. From week to week. An analysis of the work shows that only four per cent of the counts were in excess to five hundred thousand per cubic millimeter. Approximately twenty per cent were slightly in excess to four hundred thousand per cubic millimeter while sixty-eight per cent fell between three hundred thousand and four hundred thousand. The average for all of the determinations was three hundred and seventy-three thousand.
- b. Different periods within a day. An analysis of these counts shows only nine per cent to be slightly in excess to four hundred thousand per cubic millimeter, while ninety per cent ranged between three hundred and four hundred thousand per cubic millimeter. The average for the group was three hundred and seventy thousand.

There were no greater variations in the counts made from week to week than were found at different periods within one day. A range of three hundred and fifty thousand to four hundred thousand per cubic millimeter may be considered the normal numbers for the group of men studied.

2. *Women Subjects*

- a. From week to week. The determinations ran consistently lower in

women than in men. None exceeded four hundred thousand per cubic millimeter while approximately ninety per cent fell between three hundred thousand and three hundred and thirty thousand per cubic millimeter. The average for the group was three hundred and twenty-eight thousand per cubic millimeter.

- b. At different periods within a day. The variations within one day paralleled closely those from week to week and the average for the group was three hundred and thirty-five thousand per cubic millimeter.

The experiments reported here indicate a range of three hundred and fifty thousand to four hundred thousand per cubic millimeter for men and a range of three hundred thousand to three hundred and thirty thousand per cubic millimeter for women may be considered the normal blood platelet numbers.

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Diabetes—A group of diabetics studied during the past two years fall roughly into two classes, the relatively insulin-sensitive and the relatively insulin-resistant. In most instances, the sensitive cases showed no gains in carbohydrate tolerance upon a high carbohydrate intake. The resistant type, however, showed quite consistent gains in tolerance as a result of increasing the carbohydrate allowance.—*MacBryde, South. M. J., May 1936.*



# ALABAMA'S EIGHTY-NINE YEARS OF MEDICAL ORGANIZATION

## A BRIEF HISTORY OF THE ASSOCIATION\*

By  
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Montgomery, Ala.

WITH THE TURN OF THE CENTURY

In the year 1901 Alabama was entitled to thirteen\* representatives in the House of Delegates of the American Medical Association; and, to serve, President E. L. Marechal, of Mobile, appointed Dr. Russell M. Cunningham, Ensley; Dr. W. E. B. Davis, Birmingham; Dr. John C. LeGrand, Birmingham; Dr. Henry A. Moody, Bailey Springs; Dr. William H. Sanders, Mobile; Dr. Silas S. Tam, Mobile; Dr. William H. Sledge, Mobile; Dr. William T. Henderson, Mobile; Dr. James A. Goggans, Alexander City; Dr. William W. Harper, Selma; Dr. William G. Harrison, Talladega; Dr. Robert S. Hill, Montgomery; and Dr. M. B. Cameron, Sumterville. Those of the number who were privileged to discharge the responsibility must have experienced a high degree of satisfaction when Dr. C. A. L. Reed, President of the national body, at its St. Paul meeting in June 1901, referred to Alabama's system of medical organization as "the incomparable Alabama plan." Dr. Marechal, in his presidential message to the Association in 1902, directed attention to the fact that "the American Medical Association, in its plan of reorganization, adopted the fundamental principles underlying our system"; due in part, no doubt, to its appraisal by Dr. George H. Simmons, at that time Secretary of the American Medical Association, "as the best medical organization in the world."

On invitation of Dr. Groce Harrison, now of Birmingham, Talladega and the Talladega County Medical Society accorded the Association a "highland welcome," April 21-24, 1903, "to a city of interesting history—a place of clustering memories." The

\*The last of three installments. The first and second parts appeared in the March and April issues, respectively.

\*Reduced to three (one to each 500 members or fraction thereof) effective with subsequent meetings of the American Medical Association, and later further reduced to two (one to each 750 members or fraction thereof).

oration of the year was delivered by that courtly gentleman, Dr. Lewis Coleman Morris, of Birmingham, who "turned the search light of scrutinizing investigation into the innermost recesses of the organization, enquiring into its aims and objects." "If I have failed to show that these are of the most unselfish, philanthropic and benevolent character," said Dr. Morris, "please



JOSEPH DAVIS HEACOCK  
President  
1924-1925

attribute the fault to my stammering tongue . . . "

**MEDICAL PRACTICE ACT UPHELD** It was in January of this year that "the able, learned, and exhaustive opinion handed down by Mr. Justice Tyson, and concurred in by the other four distinguished jurists who compose the Supreme Court of the State, interpreting the full meaning and scope of the statutes regulating the practice of medicine in Alabama, established beyond cavil or doubt the constitutionality of the law as enacted, and fully upheld the right of the Association, under the law, to examine into the qualifications of all applicants desiring to practice the profession in Alabama."

Moreover, on February 26, 1903, when Dr. R. M. Cunningham, of Birmingham, was Lieutenant Governor, there was ap-

proved by the Chief Executive of Alabama an act to prescribe the branches of medical learning upon which applicants for the privilege of treating diseases of human beings in this State must be examined. Specified the law, in part: "Any applicant for a certificate of qualification to treat diseases of human beings by any system whatsoever, shall, according to rules prescribed and

Hon. E. S. Starr, Representative from Dallas County, with the result that on October 9, 1903 an act was passed "to amend, reconstruct and provide for the enforcement of the laws relating to public health."

Dr. W. H. Sanders, addressing the Montgomery session of 1905 under the presidency of Dr. C. C. Jones, of East Lake, said that "all governments and chartered bodies . . . find it necessary from time to time to amend or revise their constitutions, so as to embody in them alterations that time and



CHARLES A. MOHR  
President  
1925-1926



standards established by The Medical Association of the State of Alabama, be examined . . . in the following branches of medical learning, to wit: Chemistry, anatomy, physiology; the etiology, pathology, symptomatology, and diagnosis of diseases; obstetrics and obstetrical operations; gynecology, minor and major surgery; physical diagnosis; hygiene, and medical jurisprudence . . . "

Nor did the year close without the enactment of other legislation. "That the chapter of health laws as written in the code is illogically construed, faulty in sequential arrangement, and ambiguous in verbiage, has long been known to the State Health Officer," reported the Board. In the light of these deficiencies, a general bill designed to meet the situation was placed in the hands of

HEALTH LAWS  
REVISED



AARON LaFAYETTE HARLAN  
President  
1926-1927



experience have shown to be wise and necessary. The Constitution of this Association is thirty-two years old . . . and . . . when conceived and formulated . . . it deservedly ranked as a unique and remarkable document, remarkable for the original and philosophical principles it embodied, as well as for the clear and logical way in which these principles were put together. The time seems to have arrived, however, for a general revision of the instrument, so as to make it express more fully, and in some places more sequentially, the organic principles it contains."

Therefore in 1906, in Birmingham, a new constitution was adopted without alteration



or modification of any of the fundamental and essential principles incorporated in the Constitution of 1873.

APPROPRIATION TO PUBLIC  
HEALTH INCREASED

On March 6, 1907, an appropriation of \$15,000.00 annually was made to the Association for its use as a State Board of Health, and under conditions set forth in the

MEDICAL PRACTICE  
ACT AMENDED

The year 1907 saw, also, the Medical Practice Act amended on August 9th in such way as to require that all examinations for certificates of qualification to treat diseases of human beings be held in Montgomery. By the same amendment, approved by Governor B. B. Comer, the State Board of Censors (the Board of Medical Examiners) was granted authority to establish reciprocal relations with similar boards of other states requiring examinations upon substantially the same branches of medical learning as those enumerated in the stat-



EDWIN V. CALDWELL  
President  
1928-1929



LOUIS EDWARD BROUGHTON  
President  
1929-1930

law—"an amount of liberality," said the Board, "that should place the present Legislature upon a high plane as respects the promotion of the health of the people."

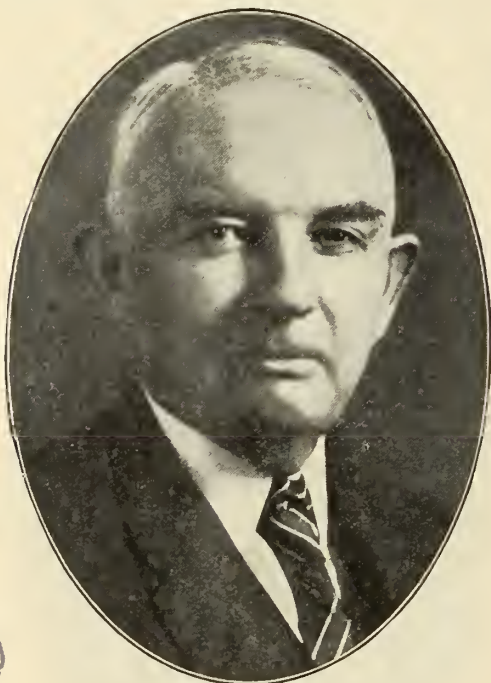
"I should probably not err," read President G. T. McWhorter to the Association, in session in Mobile, April 16, 1907, "in stating that the objects and aims of the medical profession are better understood by the people at large . . . than at any period in our past history . . . There is no surer index of public sentiment than the views of a deliberative body chosen by popular suffrage for the discharge of legislative functions. As a member of the Senate of Alabama, and closely observant of prevailing sentiment, I congratulate this Association upon the firm and strong hold it has upon the confidence and good will of the Legislature of Alabama."

utes of Alabama. The privilege was not exercised, however, until 1917 when rules governing reciprocity were adopted.

Dr. Samuel Wallace Welch, of whom much was to be heard in other years, was President of the Association when it convened in the House of Representatives, in Montgomery, April 21-24, 1908. In his message he deplored the death, on April 19th, 1907, of Dr. R. F. Michel, so long and prominently identified with organized medicine. For nearly forty years he was a member of the Association, serving as its President in the year 1869-1870. In 1872 he was elected Vice-President of the American Medical Association, and in 1883 was

Surgeon General on the staff of Governor Edward A. O'Neal.

**FURTHER APPROPRIATION TO PUBLIC HEALTH** Legislation of April 22nd, 1911 made available \$25,000.00 annually for the protection of the health of the people of Alabama, thus marking another upward step in the march toward the "goal of the high calling" of the Association.



WILLIAM GROCE HARRISON  
President  
1930-1931

#### NEW CHARTERS FOR COUNTY SOCIETIES

When the Legislature on February 6, 1893 confirmed, amended and extended the charter of the Association, the organization "conferred upon the State Board of Censors the right to prepare for issuance new charters for all County Medical Societies." Since "the original charters," referred to in a foregoing paragraph, "were very short and incomplete . . . written on paper . . . not especially prepared for the purpose, . . . it is highly proper that new charters should be issued in proper form," Dr. W. H. Sanders, as Chairman of the Board of Censors, told the Association in 1912. "The one which I hold in my hand is that of the Medical Society of Talladega County," and is as follows:

Proof having been made to The Medical Association of the State of Alabama, a corporation char-

tered by said State, that the physicians of the County of Talladega, whose names appear below, have organized by adopting a constitution, approved by this Association, thus placing themselves in position to cooperate with this Association in the achievement of the objects set forth in its Constitution;

Therefore, Be It Known, That, by virtue of the power conferred upon it by the General Assembly of the State, in an act approved on the sixth day of February 1893, this Association does hereby charter said body of organized physicians as a County Medical Society under the title of 'The Medical Society of Talladega County,' and authorizes and empowers said society to do and perform all acts in furtherance of the objects of its organization as set forth in its constitution, and further



TOULMIN GAINES  
President  
1931-1932

authorizes and empowers said society, through its proper and legal officials, to enforce the public health and quarantine laws of the State, and the public health ordinances of this Association in so far as they apply to the said County of Talladega, and also to enforce in the said county and in all municipalities therein such public health ordinances as the respective authorities thereof may legally enact.

Provided that said society shall not do or perform any act in violation of the Constitution or ordinances of this Association.

The said Medical Society of Talladega County is hereby declared to be in affiliation with this Association, and also in fellowship with other county societies in this State chartered by this Association.

Done in annual session in the city of Birmingham, on the nineteenth day of April 1912. In tes-



timony whereof the signature of the President and that of the Secretary of the Medical Association of the State of Alabama, together with the seal of the said Association, is hereunto affixed.

Lewis C. Morris, President.

J. N. Baker, Secretary.

The President, assisted by Dr. Sanders and the Secretary, then issued charters to each of the sixty-seven county medical so-

traced the pathology of shock to its final headquarters—that enthroned king that presides over mind and body. He has thrown on the screen marvelously executed lantern slides that spoke in tones more eloquent and graphic than words could do of the intimate and harmful, yea, sometimes fatal, change that shock may produce in the ultimate cells of the great nerve centers of the human body, and with the skill and acumen of a great teacher has pointed out how those fountains of life may be securely guarded against injury from shock under the most formidable and prolonged



SAMUEL KIRKPATRICK  
President  
1932-1933

cieties, Houston having been organized in 1903.

**DISTINGUISHED GUESTS OF THE ASSOCIATION** On April 16, 1913, Dr. George W. Crile, of Cleveland, read to the Association a paper entitled, "A Successful Method of Performing Shockless Operations Based on a Clinical Experience of Three Thousand Cases," which so impressed the gathering that Dr. W. H. Sanders asked for the privileges of the floor. "I am sure," said Dr. Sanders, "I reflect the sentiments of everyone present when I pronounce the paper, just read, and the illustrations that accompanied it, the most masterful presentation of a great subject that the members of this Association have ever had the pleasure and profit of hearing.

"With the inspiration and genius of a true scientist our distinguished visitor has



JAMES R. GARBUR  
President  
1933-1934

surgical procedures. How immeasurable the means of protection of the very sources of life he has evolved? How with the skill of a magician he has robbed the surgeon's knife of much of its peril! What a boon he has conferred on suffering humanity!

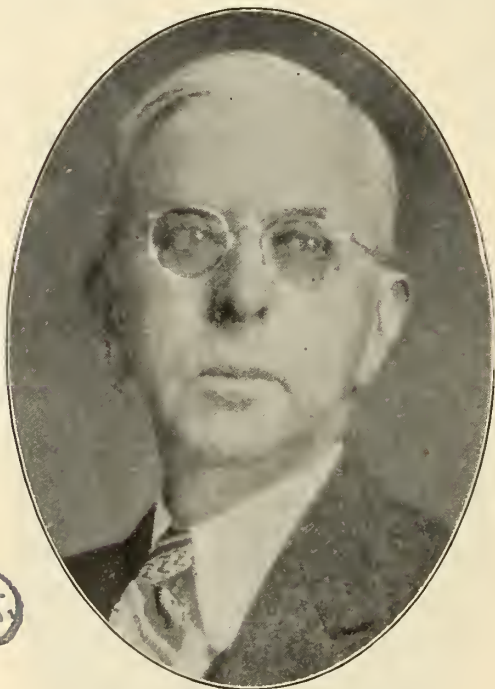
"I move, Mr. President, that this Association express by a rising vote of thanks its unbounded appreciation of this great contribution to scientific and practical medicine."

A catalogue of the distinguished guests who have honored the Association by their presence from time to time would contain the names of men occupying an enviable place in American medicine. They speak

for themselves: George H. Price, of Nashville; Canby Robinson, then in Nashville; W. S. Thayer, Lewellys F. Barker, Howard A. Kelly and J. Whitridge Williams, of Baltimore; Robert Abbe and Russell L. Cecil, New York; Nicholas Senn and Frank Smithies, Chicago; Rudolph Matas and John B. Elliott, Jr., New Orleans; Maurice H. Richardson, Henry A. Christian and

the ravages of time were rendering him unfit for further active service, gracefully tendered his resignation" as State Health Officer.

Dr. Sanders' "loyalty and devotion to the Association—nay, more, his simple and whole-hearted love—for he never married—was a thing apart, and no one, even of those who at times opposed him, ever questioned it. So firm and unshakable were his convictions that our scheme of organization should not be unthinkingly tampered with, that he repelled, with bulldog tenacity, every effort made to change or modify it."



WILLIAM MOODY CUNNINGHAM  
President  
1934-1935

James S. Stone, of Boston; Chas. H. and Wm. J. Mayo; George E. Bushnell, Washington; and John B. Deaver, of Philadelphia. Surely there could not be a more brilliant galaxy; and these are but a part of those who gave freely, each in his time, to the Association in Alabama.

#### THE LAST SCORE OF YEARS

There are periods in the lives of most men they would like to forget could memory be stifled—not because they regret having had a part in an endless cycle of events but that they are forced to stand by as those they came to revere passed on. Such must have been the feeling of many when, on January 2, 1918, Dr. William Henry Sanders merged into the shadows of the Great Beyond, "dying, as he had lived, quietly, stoically, bravely." A year before, Dr. Sanders, then 79 years of age, "realizing that



CHARLES A. THIGPEN  
President  
1935-1936

In his administration, only one essential change was made in the Constitution of 1906—a proper modification, it is believed. At the 1915 annual session, held in Birmingham, representation in the house of delegates was changed from two for each county to as many as corresponds with the number of the county's representatives in the lower house of the State Legislature, but in no case less than two.

In the same year, March 5, 1915, right was conferred by legislative action to alter, amend or extend the charter of the Association by a vote of two-thirds of those present at an annual or other lawful meeting of the Association; the only further



stipulation being notice of such change in prescribed manner to the Judge of Probate of the county wherein the original declaration of incorporation was filed.

DR. S. W. WELCH ELECTED  
THIRD STATE HEALTH OFFICER

When Dr. Sanders "resigned as State Health Officer on January 9, 1917, those charged with the selection of his successor realized that they would not do their full duty by the people of Alabama unless they selected for the State, at that critical period in the life of our commonwealth, a man whose education, experience and character were such as to eminently qualify him as State Health Officer for the most important duty of preventing disease and conserving health by all the means known to medical science." Thus it was that Dr. S. W. Welch was chosen and well did he meet every expectation of his friends.

DR. C. A. GROTE SECOND  
FULL-TIME HEALTH OFFICER

On assuming office, Dr. Welch thought immediately in terms of a substantial public health structure for the foundation laid by his predecessors; and that laid in Walker County, where the first full-time county health department in Alabama and the second in the United States had been inaugurated June 1, 1914, under the direction of Dr. Carl A. Grote. Dr. Welch's abiding interest in this field of endeavor so commended itself to the Rockefeller Foundation and the United States Public Health Service that they contributed materially over a number of years to the expansion of Alabama's soundly planned health program, not funds alone but talent also. But for the development, for publication, of this phase of the work of the Association, as a State Board of Health, a later day must be reserved. Here it must be sufficient to say that from that humble beginning in 1914, and because of the steadfast zeal of the physicians of Alabama, the number of counties enjoying the benefits of full-time health service, has grown, at this writing, to 57.

THE PROFESSION  
IN SERVICE

Time and space demand that we return, before a final paragraph is written, to the momentous days of 1917 and '18 and record briefly the response of the physicians of Alabama to the call of their country. Even as did their

forebears at another period in the history of the Association, they "were found exchanging their pleasant reunions for the camp and the bivouac, confronting danger amid the carnage of the bloody battle field, or ministering at the bedside of the wounded and suffering in hospitals and infirmaries." A muster-roll, believed to be incomplete, lists 454 from 66 counties who served in the Army, the Navy and the United States Public Health Service. On their return they were welcomed by the Association in annual session, Mobile, April 16th, 1919, its spokesman being Dr. S. W. Welch; and guest speakers, Messrs. Borden Burr, Birmingham, and John A. Rogers, Gainesville. But some were beyond reach of their voices; those who gave to the uttermost: Bryant C. Rudder, Paul Lee Cocke, Mortimer H. Jordan, Philip M. Kyser, James D. Atkins, and Robert C. Goldthwaite.

"Fate denied them the victory but crowned them with glorious immortality."

DR. WELCH'S  
DEATH

So is it true in many instances. It was true in the passing of Alabama's third State Health Officer who had three consuming desires: (1) To live to see his boy receive his degree as Doctor of Medicine; (2) To survive until the Association could point with pride to an organized health department in each county of the State; and (3) To continue virile until the end. Only the last was granted him.

Of his attributes much might be written but the breadth and depth of his humanness could never be bound by the limits of the printed page. "By reason of this human touch—marvelous and quite indefinable—he was able to infuse into the public health machinery of this State, the same machinery which Cochran had carefully constructed a half century before, and which Sanders had valiantly defended and preserved for a quarter century, a *something*, which seemed immediately to vitalize and humanize it and to make it workable far beyond the fondest dreams of its author."

Dr. Welch died on the morning of August 22nd, 1928, in Montgomery, of angina pectoris after an apparent illness of less than twenty-four hours; and thus there slipped into the shadows another distinguished son of Alabama.

DR. J. N. BAKER SUCCEEDS HIM On April 18, 1930,\* Dr. J. Norment Baker, of Montgomery, a member of the Association for a quarter century, its Secretary 1906-1915, President 1915-1916, and a former member of its Board of Censors, became Alabama's fourth State Health Officer. "You can rest assured," said Dr. Baker to the Association in accepting the office, "that the old ship which you have entrusted to my care will have every iota of manhood and courage I possess. You cannot expect more of any man, and I here and now pledge you that."

THE JOURNAL ESTABLISHED One final reference before the conclusion is written. As far back as 1885, when Dr. Benj. H. Riggs was President, the desirability of a monthly journal for the Association was discussed; and advocated in later years by Dr. Seale Harris, Birmingham, and Dr. W. W. Harper, Selma. July 15, 1931 witnessed the culmination of the plan, when the first number, a magazine of 44 pages, was published.

#### CONCLUSION

The conclusion? It was written sixty-five years ago: "Perchance there sleeps in its native quarry in the bosom of this fair State . . . a block of spotless marble . . . Take that block, raise it high . . . engraven deep in enduring characters the lines that will tell to future observers the triumph, the glory, and the fame" of this heritage of 47 and '68 and the years that have followed through from Mabry to Thigpen—the Association's President in 1935-'36.

"Is not such a gift," wrote Dr. Baker in the preface to 'A Compend for the Members of the Organized Medical Profession of Alabama—1928,' "the doubt of whose practicability and adaptability to the most modern methods of conducting both public health activities and scientific work having been entirely removed, quite worthy of preservation and perpetuation?"

#### CHRONOLOGY

- 1819 Alabama is admitted to the Union.
- 1823 (December 22) The State's first Medical Practice Act is approved by Governor Israel

\*Dr. Stuart Graves, of Tuscaloosa, and the writer were ad interim appointees.

- Pickens, providing for examining boards at Huntsville, Mobile, Tuscaloosa, Cahawba, and Claiborne.
- 1835 Additional examining boards authorized.
- 1839 (January 30) The Medical Society of South Alabama, at Selma, is incorporated.
- 1841 (December 21) The Mobile Medical Society is declared a body corporate.
- 1847 The Association is organized at Mobile.
- 1850 (February 1) The Sydenham Medical Society of Montgomery is incorporated.  
(February 13) The Association becomes a chartered body.
- 1852 (February 6) Hospital for the insane authorized.
- 1853 Dr. J. Marion Sims moves to New York City.
- 1855 The Association convenes for its last session until 1868.
- 1859 The Alabama Medical College is organized at Mobile, the first class being graduated in 1861.
- 1860 (July 6) Dr. Peter Bryce becomes the first superintendent of the hospital for the insane
- 1866 The Societies at Mobile and Montgomery are incorporated a second time, the latter as the Montgomery Medical and Surgical Society.
- 1868 (March 3) The Association is revived and reorganized in Selma, with Dr. A. G. Mabry as President, Dr. Jerome Cochran, Secretary. Dr. J. C. Nott, of New York, late of Mobile, is elected an honorary member of the Association.  
Dr. Wm. O. Baldwin, of Montgomery, is elected President of the American Medical Association.
- 1872 Dr. Jerome Cochran acquaints the Association with his plan to have the Association serve as a State Board of Health.
- 1873 A new constitution is adopted in Tuscaloosa.
- 1874 (February 23) Dr. Mabry dies.  
(April 15) The State Board of Censors renders its first report.  
County Medical Societies are chartered.
- 1875 (February 19) The Association becomes the Board of Health.  
First Committee of Public Health elected.
- 1877 (February 9) Second Medical Practice Act adopted.
- 1879 (February 12) Legislature makes first appropriation for public health.  
(April 11) Dr. Jerome Cochran is elected first State Health Officer.
- 1881 (February 28) Act is approved providing for the supervision of the public health in the several counties of Alabama.
- 1885 Unsuccessful effort is made to repeal the laws relating to public health.
- 1888 The complete organization of all County Medical Societies is reported.
- 1892 (August 14) Dr. Peter Bryce dies.



- 1894 Birmingham Medical College is organized, the first class being graduated in 1895.
- 1896 (August 17) Dr. Jerome Cochran dies in Montgomery.  
Dr. William H. Sanders, of Mobile, is chosen to succeed him.
- 1898 The Jerome Cochran Lecture is established on recommendation of Dr. L. L. Hill, of Montgomery.
- 1899 The first lecture is delivered by Dr. J. T. Searcy, of Tuscaloosa, on "What Is Insanity?"
- 1903 The Medical Practice Act is upheld by the Supreme Court of the State.  
The State's public health laws are amended and reconstructed.  
Legislature prescribes branches of medical learning upon which applicants for the privilege of treating diseases of human beings must be examined.
- 1906 A new constitution is adopted.
- 1907 Medical Practice Act amended as to require that all examinations be held in Montgomery.
- 1912 New charters are issued County Medical Societies.
- 1914 Alabama's first full-time health department is established in Walker County.
- 1915 Representation by delegates to the Association is made to correspond with the number of the county's representatives in the Legislature; but in no case less than two.  
Authority granted Association to amend charter by two-thirds vote of those present at annual or other lawful meeting of the Association.
- 1917 (January 9) Dr. S. W. Welch, of Talladega, succeeds Dr. Sanders as State Health Officer.  
Reciprocal relations are entered into with other states in the matter of medical licensure.
- 1918 (January 2) Dr. Sanders dies.
- 1919 The Legislature makes available increased appropriation for public health.  
(April 16) The Association welcomes home its members who served in the World War.  
(September 29) Boards of Censors of County Medical Societies are constituted Boards of Health for their respective counties.
- 1920 (January 1) Part-time health officers are abolished.
- 1923 (October 9) Dr. H. G. Perry dies—the Association's Secretary from 1915 and its Treasurer 1898 to 1915.
- 1927 Further appropriations for public health are made by the Legislature.
- 1928 (August 22) Dr. Welch dies in Montgomery.
- 1930 (April 18) Dr. J. N. Baker, Montgomery, is chosen his successor.
- 1931 (July 15) The first number of the Journal of the Association is published.
- 1935 Dr. C. A. Thigpen, Montgomery, is elected President of the Association.

**Treatment of Syphilis**—Rest intervals in the treatment of early syphilis are bad practice and dangerous, as shown by Moore and Kemp, as well as by Stokes' cooperative group. The figures on rest intervals in the early treatment of syphilis are: with continued treatment, 81.8 per cent of cases give negative Wassermann tests at the end of the first year; 37.3 per cent negative with rest intervals, and only 4.7 per cent negative tests with irregular treatment. Also relapses of all kinds were fewer with continuous treatment, namely 13.1 per cent, whereas with the intermittent method there were 20.8 per cent relapses, and with irregular treatment 45.3 per cent. Again so-called "cures" were more frequent with continuous treatment, 79.7 per cent; 65 per cent with intermittent, and 33.3 per cent with irregular treatment.

The drugs useful in syphilis remain unchanged, namely, the arsphenamines, bismuth, mercury and the iodides, the arsphenamines to remove infectious lesions and to aid in preventing relapse, bismuth or mercury to complete the so-called cure. The consensus of opinion is that bismuth is the better drug according to Cheever, but that mercury has its place in that it helps in the early months to bring infection more quickly under control.

Stokes and Cole showed that arsphenamine is a more effective drug than neoarsphenamine, but good results can be obtained with the latter.

According to Pearson, in order to achieve success in treating syphilis the patient must be submitted to treatment usually more unpleasant than the symptoms he presents, and treatment must be continued many months after all indications of the disease are gone. Also on account of the highly communicable nature of the trouble the patient must impose many restrictions on himself. If he has already exposed his family they must be examined and possibly treated. Such a procedure requires the patient's confidence in his doctor's honesty, and diagnostic and therapeutic ability. A certain percentage of patients will not or can not give this complete cooperation, and I venture to say that more than 25 per cent of our patients dismiss themselves from treatment before we consider they have had adequate medication.

Stalnaker says that dogmatism has no place in the treatment of syphilis. There are certainly no standardized methods that can be laid down for treatment of all cases, but since the results can not be measured in a particular case for such a long period of time it is certainly best to have at least a standardized minimum amount of treatment that each case shall have, regardless of symptoms or other important factors.—*Cooper, Texas State J. Med., April '36.*

# THE JOURNAL

## OF THE

### Medical Association of the State of Alabama

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#### THE 1936 MEETING

Few there were of those in attendance upon the 1936 session of the Association (Montgomery, April 21-23) who did not proclaim it an outstanding one in the history of the organization. Distinguished guests made the program an institute—beneficial alike to physician and layman. Witness, for example, the Surgeon General's presentation of "The Next Achievement in Public Health"; or the Jerome Cochran Lecture by Dr. W. D. Partlow, "The Debt the World Owes to Medical Science." And these were but a part of the contributions to the literature of the Association by eminent medical men—each skilled in his own particular field: Haggard, Rivers, Musser, Lejeune, Burns, Dandy, Peterson, Ellett, Davis, Campbell, Rankin and Bauer.

Not every feature was scientific, however. There were diversions interspersed to make the affair memorable—dinner parties here and there, the barbecue at the home of Dr. and Mrs. R. S. Hill; the reception and dance at the Beauvoir Country Club. All in all the time seemed far too short to many.

The concluding meeting saw the elevation of Dr. Lloyd Noland, of Fairfield, to the Association's Presidency; Dr. Merle Smith, of America, to the Vice-Presidency of the Northwestern Division; and the election of Drs. M. Y. Dabney, of Birming-

ham, K. A. Mayer, of Lower Peach Tree, W. D. Partlow, of Tuscaloosa, and Dr. Walter Scott, of Birmingham, to the Board of Censors.

#### THERAPY OF PEPTIC ULCER

"Of late years, myriads of new therapeutic agencies for the treatment of peptic ulcer have been brought forward; many of these are parenteral methods; each remedy has been presented by some author as the only true *sine qua non* for the alleviation or cure of peptic ulcer. To present only a part of this array, one may mention the following remedies: Non-specific proteins, aolan, histidine, mucin, vitamin C; diathermy of the cervical, sympathetic and parasympathetic ganglia by short waves; local application of radioactive substances; colloid aluminum hydroxide; injectable extract of pituitary lobe; specific vaccine; injections of parathyroid extract; amino acids; insulin; intravenous injections of sodium benzoate. Various theories as to why these remedies should prove efficacious have been advanced."

Thus does Gaither<sup>1</sup> briefly review the distressingly large array of remedies which have recently been advocated for the relief of gastric and duodenal ulcer. He reviews the literature and quotes personal communications from many noted gastro-enterologists. And he, along with most of the men with whom he corresponded, remains an adherent of the orthodox or conservative method in peptic ulcer therapy. The author states that "I have no hesitancy whatsoever in stating that to date my experience in the use of parenteral therapy has been overwhelmingly unsuccessful and disappointing. . . . I still maintain an open mind and watchful attitude, and shall continue to follow with intense interest the work which others are now carrying on with this radical method; if at a later date I am convinced of its superiority over the conservative therapy which I now support and use, I shall hasten to modify my present views."

Gaither deplores the tendency of the medical profession to accept uncritically and to place its benediction upon the attractive and the spectacular and he wishes

1. Gaither, Ernest H.: Therapy of Peptic Ulcer: Conservative versus Radical. *Am. J. of Digestive Diseases and Nutrition*, 11: 736 (Feb.) 1936.



that every theory and procedure could be subjected to "properly conducted and adequately supervised laboratory and clinical research in substantiation of its claim." He also makes the significant observation that the longer one follows patients with peptic ulcer, the fewer are medical cures that he can claim. He inclines to the belief that ulcer is primarily a medical problem and that a strict Sippy regime is the best medical solution. And he reminds us that surgery, while at times indispensable, even life-saving, does not cure the disease or alter its tendency to persist.

"I wish to place myself in that group of observers who look upon peptic ulcer as a chronic disease, the etiologic factor or factors of which have so far not been discovered; a disease which is characterized by spontaneous remissions, and thereby deprives us of the right to state unequivocally that it is cured. No matter what remedies

have been applied, a large number of cases will always give favorable results; the statistics thus far published to support the claim that parenteral therapy has established its superiority over that of physiological rest, or orthodox method, do not bear out this claim, since they are inadequate in number, and the period of time over which the cases have been observed has not been sufficiently prolonged to prove permanent results."

To the legion of sufferers from ulcer and the physicians who struggle so valiantly and, all too often, vainly, with them the report of Gaither will come as a profound disappointment. But the experience and eminence of the Baltimore investigator and his open-minded attitude and dispassionate consideration of this subject is bound to carry much weight. And, apparently, the short-cut treatment and quick relief of peptic ulcer are not yet at hand.

## DEPARTMENT OF PUBLIC HEALTH

### BUREAU OF LABORATORIES

James G. McAlpine, Ph.D., Director

#### FOOD POISONING\*

##### IV. BACTERIAL FOOD POISONING

In the introduction to this series of articles it was stated that the words "food poisoning" would be used to indicate gastrointestinal disturbances which had either a chemical or bacterial origin. However, as Jordan<sup>1</sup> has stated, "the term 'food poisoning' has come to have a special technical meaning and is today most commonly applied by public health workers to certain infections or intoxications due to particular micro-organisms." The inclusion of the word "intoxication" in this definition should not be confused with the older conception of ptomaines and ptomaine poisoning.

"Ptomaine poisoning" was a term much used at one time to designate gastrointestinal disturbances which are now known to have been caused by living bacteria or their

toxins. Rosenau<sup>2</sup> writes as follows: "The term 'ptomaine poisoning' is a misnomer. A study of this subject for over five years has convinced me that there is no such thing. . . . Long ago the importance of ptomaines disappeared due in the first place to the discovery of toxins, and in the second place to the fact that these substances are not secondary products of protein cleavage." The general consensus of opinion at present is that the term ptomaine poisoning should not be applied to food poisoning. On the other hand it is well to remember, as Zinsser and Bayne-Jones<sup>3</sup> have pointed out, that ptomaines which may be present in decomposed foods may occasionally cause sickness. But in these cases we are dealing with a different disease entity; it is not food poisoning in the strict sense of the word.

Rosenau divides food poisoning into two classes: first, food infection which is caused by the ingestion of food containing living bacteria of certain species; and, second,

\*Fourth in a series. The first appeared in February.

1. Jordan, E. O.: *The Bacteria of Food Poisoning*. Jordan, E. O., and Falk, I. S.: *The Newer Knowledge of Bacteriology and Immunology*, The University of Chicago Press, Chicago, 1928.

2. Rosenau, M. J.: *Preventive Medicine and Hygiene*, D. Appleton-Century Co., New York, 1935.

3. Zinsser, H., and Bayne-Jones, S.: *A Textbook on Bacteriology*, D. Appleton-Century Company, New York, 1935.

food toxemia due to toxins already formed in the food. In the first instance the clinical symptoms are fever, nausea, vomiting, cramps and diarrhea. Botulism is the only example of the second class, and it is characterized by lack of fever, nervous symptoms, paralysis and constipation. The mortality rate for food infections is low, 2 per cent and below, while in botulism it is 50 per cent and higher.

The bacteria which are concerned in food infection may be divided into three divisions. First, the members of the *Salmonella*, or paratyphoid group, are probably the greatest offenders. Second, certain members of the genus *staphylococcus* have assumed more and more importance during the past few years. And lastly, there is a miscellaneous group including many species which are occasionally incriminated in isolated outbreaks.

The *Salmonella*, or paratyphoid group, has a number of members which investigators have as yet been unable to classify to the satisfaction of all concerned. *B. paratyphosus A and B* are human pathogens which are closely related to the typhoid bacillus and are transferred by human agency. They are distinct from those organisms causing "food infection." The species most frequently incriminated in outbreaks of food poisoning in the order of their importance are *B. aertrycke*, *B. enteriditis* and *B. suis-pestifer*. According to English and German workers, *B. aertrycke* has been found in a relatively large number of outbreaks. Although it has been isolated from epidemics in laboratory animals it is, according to Jordan,<sup>1</sup> "not a distinct rodent type, but is found in infections of many other animal species such as cattle and sheep." *B. enteriditis* was first isolated by Gartner in 1888. Since then it has been implicated in a number of epidemics in which a variety of foods, such as milk, beef, veal and sausage meat, have appeared to be the vehicles. It is the organism generally employed in commercial rat viruses and one or more epidemics have been derived apparently from this source. The question of toxin production in this group has received considerable attention but up to the present no general agreement has been reached. Some have claimed the presence of a soluble exotoxin while others maintain that the toxic substances are locked up in the bacterial cell

and only released when it disintegrates.

Both *Staphylococcus albus* and *aureus* have been reported from outbreaks of "food poisoning." As far back as 1914 it was shown in the Philippines that acute attacks of gastro-enteritis could be induced by the ingestion of milk in which *Staphylococcus albus* had elaborated a toxic substance. Later, Jordan,<sup>4</sup> and Dack, Cary, Woolpert and Wiggers<sup>5</sup> reported that *Staphylococcus aureus* caused outbreaks of food poisoning. The vehicles were canned foods, milk, cake and other products. They proved that the symptoms were caused by a toxin elaborated by the bacterium but some of the properties of this toxin were different from those of the true exotoxins. Two outbreaks of food poisoning in Alabama have been attributed to staphylococci; one of these, which was rather extensive, was due to an infected ham; the other to contaminated pastry. Because of the ubiquity of this group of micro-organisms much care must be taken before a definite incrimination is made.

A number of other bacteria have been reported as the causative factors in outbreaks of food poisoning. The *Proteus* group has some members which are pathogenic and can be found quite generally in decomposing foods. Although epidemics have been attributed to them, Savage<sup>6</sup> is of the opinion that the etiology of none of them, as far as *B. proteus* is concerned, can be established. Several outbreaks have been said to be caused by streptococci and there are undoubtedly many other species which will be implicated in the future. Of interest here is a circumscribed outbreak which occurred in Alabama. A number of people in one small area suffered acute attacks of gastro-enteritis, and the only common food was homemade buttermilk secured from one source. A laboratory examination of this milk showed that it contained large numbers of *B. coli*, and the evidence points strongly to the fact that this was the causative factor.

4. Jordan, E. O.: The Production by *Staphylococci* of a Substance Causing Food Poisoning, *J. A. M. A.* 94: 1648-1650 (May 24th) 1930.

5. Dack, G. M., Cary, W. E., Woolpert, O., and Wiggers, H.: An Outbreak of Food Poisoning, Proved to Be Due to a Yellow Hemolytic *Staphylococcus*, *J. Prevent. M.* 4: 167-175, March 1930.

6. Savage, W. G.: Food Poisoning and Food Infections, Cambridge, 1926.



Botulism, as has been stated above, is the only example known at present of "food toxemia" using Rosenau's classification. It is caused by *Bacillus botulinus*, a strict anaerobe. The bacterium is able to grow in a wide variety of both plant and animal foods and produces a true soluble exotoxin in those foods before they are eaten. The unique property of this toxin is that it is able to produce its poisonous effects when swallowed, this being due to its remarkable resistance to the acids and alkalies of the gastro-intestinal tract. The organism itself is saprophytic, but its toxin is potent in exceedingly small quantities. There are three types or varieties of *Bacillus botulinus*, A, B, C, each producing its specific toxin. Type A seems to predominate in the United States having been implicated in many outbreaks and isolated from a number of soil specimens especially in the Rocky Mountain and Pacific Coast States. Home canned food products are the vehicles most often involved.

Before discussing the methods employed by the Bureau of Laboratories for the examination of suspected foods, a few words should be said about the submission of specimens. In the first place the isolation of any of the above bacteria from a food, which appears on the surface to have been the cause of the outbreak, is very often unsuccessful. In too many cases the wrong foodstuff is submitted, and naturally the results are negative. People too often jump to the conclusion that a certain foodstuff is the vehicle, doing this before a careful study of the situation is made. When samples are to be submitted, a thorough survey should be conducted and all persons involved questioned. If legal action is contemplated, the samples should be sent by registered mail to the Director of Laboratories that their authenticity may be preserved. As little handling of the food as possible should be the rule, and when canned goods are to be tested, an unopened container from the same shipment—if it can be obtained—should be included.

The following methods are employed by the Bureau of Laboratories for the examination of suspected foodstuffs. First, a fairly heavy emulsion of the material, if it is not a liquid, is made in physiologic saline and smears are made, stained and examined microscopically. The emulsion is

divided into two parts one of which is passed through a Seitz filter. A guinea pig is given 5 cc. of the unfiltered material by mouth and another pig 2 cc. of the filtered portion subcutaneously. These are observed for a week and should give some idea whether living bacteria or toxins are present. Varying amounts of the unfiltered and filtered portions are planted in sterility broth in Smith fermentation tubes where both anaerobic and aerobic growth may be obtained. Subplants are made from the emulsion tubes on Endo plates and smears from them are examined microscopically. If suspicious colonies are found on the plate the routine confirmatory tests are performed. Growth in the tubes planted from the filtered portion indicate a defective filter necessitating a repetition of the animal inoculation with other filtered material.

It is realized that the guinea pig is not the most satisfactory animal for this purpose and that Geiser and his associates have recommended the white mouse. White mice are difficult to obtain in Montgomery and because of the relatively few calls for this type of work, it has not appeared feasible to maintain a colony for this purpose alone. However, it is hoped that they may be available in the near future.

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## BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

### SMALLPOX IN THE UNITED STATES

In a recent issue of Public Health Reports (April 3, 1936) A. W. Hedrick presented an excellent report on the changes in the incidence and fatality of smallpox in recent decades. He discusses the worldwide incidence of smallpox and the geographical distribution as to the type of disease prevailing. With the exception of British India, the United States showed the highest reported attack rate from this disease for the years 1921-1930, but in his opinion, this is probably due to the mild type of disease prevailing in this country, with its resulting difficulty of control.

In India the case rates are high and the case fatality rate averaged 42.3 per hundred cases for the period under consideration. In contrast with this, the case fatality rate in this country was 0.9 per hundred

cases for the same period. Naturally it is difficult to secure adequate vaccination against a disease which does not kill and does not disfigure.

Studies have shown that the population of the larger cities is much better protected against smallpox than is the rural population and that during times of prosperity when there is an influx of unvaccinated into the cities the smallpox rates rise. Conversely, during depressions when the shift in population is toward the rural areas smallpox tends to decrease and this decrease has been general throughout this country since 1930.

The mild strain of smallpox prevalent in this country tends to perpetuate itself due to (1) the relatively low vaccination rates which permits it to maintain itself, and (2) the intense attacks that are instituted whenever the malignant form appears. In Detroit, for example, when malignant smallpox appeared in 1924 there was an intensive vaccination campaign and over 800,000 people were given protection. This same procedure is adopted whenever the severe form of the disease appears, but it is impossible to secure this response when the disease is mild and, as a result, it continues to spread.

In this spread, the vagrant, the migratory laborer and the rural worker moving to the cities all play an important part. Many of the severe epidemics that have occurred have been traced to the arrival of such an individual. This factor becomes increasingly important in those states adjoining Mexico where the Mexican laborer migrates at particular seasons of the year. Mexico has a high unvaccinated population and both the severe and mild forms of the disease are endemic at all times. Particular vigilance is required to forestall the importation of the virulent virus from this source.

In Alabama, the last year of a widespread epidemic was in 1925 when 4,288 cases were reported. Since that time there has been a gradual decline in the incidence and deaths have been few. In 1928 there were three deaths attributed to smallpox and for the next six years there were only two, both recorded in 1932. As a result, probably not over thirty per cent of the population of the state has received the ben-

efit of smallpox vaccination and there is a fertile field for the virus should it ever find its way into this State. The influx of tourists and others creates an ever-present hazard in this respect and it would not be surprising to see a recrudescence of this disease.

#### SYPHILIS IN PREGNANCY

In the February issue of *Venereal Disease Information* a special article is devoted to syphilis in pregnancy. The article states "the data show that congenital syphilis is practically a preventable disease." It goes on to say that:

"Its prevention is dependent upon the routine, early and repeated use of the serologic blood test on every pregnant woman and upon adequate early treatment once the diagnosis of syphilis has been made. A positive blood reaction during pregnancy is a serious matter to the fetus. Ten times as many syphilitic children were born when the syphilitic mother's blood was positive during pregnancy as when it was negative. The pregnant syphilitic woman was found to tolerate anti-syphilitic treatment as well as, or better than, the syphilitic woman who had not been pregnant since infection.

"There is evidence that habitually aborting syphilitic women are capable of producing living, apparently nonsyphilitic children when given specific treatment throughout each pregnancy. Many more nonsyphilitic living children were born when anti-syphilitic treatment was begun before the fifth month of pregnancy than when therapy was delayed. This advantage was increased if the treatment during pregnancy was not only early but adequate, that is at least 10, preferably 15, injections of arsphenamine and appropriate heavy metal.

"If an early syphilis appears late in pregnancy some treatment begun at this period and continued up to termination of pregnancy, even though it is only a small amount, will be of value in the production of a living child. To those women with early syphilis who were treated after the fifth month of pregnancy only 7.6 per cent of the children were born dead whereas among a similar group of women with early syphilis to whom no treatment was administered during pregnancy the loss of



life was 46 per cent. Treatment during a preceding pregnancy is insufficient protection for the present pregnancy even though the syphilitic woman has a negative blood reaction. It is necessary to treat her throughout each pregnancy to insure a living nonsyphilitic infant.

"The important factors in controlling clinical progression and relapse in the syphilitic woman are the stage of syphilis on beginning treatment and the amount of therapy administered, rather than the pregnancy. The possible exception is the apparent protection pregnancy affords the early syphilitic in avoiding an involvement of the central nervous system."

## BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

### THE PRESCHOOL CHILD

Because of the rapid growth and the great physical changes that occur during the first six years in the life of a child greater emphasis must be placed on health in this period than in any other. The body and bony framework grows so rapidly during preschool life that special attention should be given to its physical needs—diet, exercise, rest and elimination. The diversity of problems that present themselves during this age will tax the resources of every mother. She should study her child and learn to meet these problems. There will be times, however, when she has exhausted her own resources and must of necessity seek advice. At these times the services of a physician are needed.

For many years attention has been directed to the health of school children because they are easily accessible, can be reached in groups and health services rendered en masse. In later years more attention has been directed to the health needs of infants. As a consequence, these two groups receive more and better health services than the preschool age children. Because of this trend in the development in health services the preschool age has been referred to as the "neglected age of childhood."

The physician who is busily engaged in general practice in the treatment of sick persons may fail to recognize some of the simpler health needs of the preschool child that are caused by the important changes

that take place during these first six years of life. The weight of the preschool child normally increases about six times that at birth, his height is doubled, the heart becomes four times its weight, and the brain and skull grow to almost adult size and weight. The foundation for sound permanent teeth is laid, the bones grow firmer and harder. The delicate digestive organs are becoming adjusted to various foods. There is little immunity to infectious diseases so the preschool child is quite susceptible to them. It is most important that the preschool child receive immunizing agents against such communicable diseases as smallpox, diphtheria, and typhoid fever. The importance of the administration of all accepted immunizing agents, as well as advice for constantly guarding against contact with people who are sick, should be emphasized by the family physician. Physical defects develop more easily during this age, and they are often easily corrected. Postural defects may develop as a result of wearing clothing that does not fit or the use of furniture, such as chair, table, desk, and bed, that is not fitted to the growing child.

The public health nurse is a teacher and will assist whenever possible in promoting the health, safety and well-being of preschool children. She does not give nursing care except for demonstration purposes, and in teaching persons how to carry out the instructions of the physician. She teaches the importance of an annual health examination by a physician, and a dentist. Particular emphasis is placed upon the importance of securing the services of a physician during illness and medical examination after recovery to make sure that no unfavorable physical conditions are left as a result of the illness.

The nurse stresses the value of sunshine regularly, proper foods that are well prepared and served in order that the child's nutrition may be kept at a high level. She does not prescribe a specific diet for the child but places emphasis on building materials such as are contained in milk, vegetables, fruits and whole-grained cereals.

The public health nurse teaches the importance of the formation of correct health habits early in life and likewise the discouragement of bad habits. Habits of cleanliness are particularly encouraged. Plenty

of rest and sleep with adequate natural play and a happy atmosphere with as little visiting and excitement as possible are stressed.

The selection of properly fitted clothing, and furniture and play equipment adjusted to the growing body is emphasized by the health nurse in order that good posture may be developed.

Public health workers urge that diphtheria toxoid be administered after an infant is six months old, and smallpox vaccination as early as the permission of the parents can be secured. Protection against all communicable diseases through preventing contacts with sick people and by developing the habits of washing hands before eating and keeping fingers and objects out of the mouth and nose are stressed.

Parents are urged to safeguard the child against accidents by close supervision of the environment and activities. It is urged also that he have constant competent adult supervision, prompt emergency care if injured and the services of a physician if there is a possibility of doubt.

## BUREAU OF SANITATION

G. H. Hazlehurst, Director

### EXTENT AND PREVALENCE OF DISEASE TRANSMISSION BY BATHING WATERS

The extent and prevalence of disease transmission by bathing waters is described briefly but effectively in a Progress Report of the Joint Committee on Bathing Places of the Conference of State Sanitary Engineers and the Public Health Engineering Section of the American Public Health Association and published in the American Public Health Association Year Book 1935-1936, as follows:

"This subject might be divided into two categories; those diseases which might be spread in relatively small swimming pools where the danger of transmission is from one bather to another, assuming a safe source of water supply, and those diseases which might be caused at outdoor bathing places where there are also the dangers from waters polluted by sewage from public sewerage systems and other extraneous sources. Another distinction might be drawn as to the types of possible diseases; whether eye, ear, nose and throat infections, or skin infections such as ringworm,

eczema, scabies, etc., or venereal infections, or gastro-intestinal disorders.

"In 1921 a committee of the American Public Health Association attempted to assemble data on the subject of spread of disease from bathing waters by sending out 2,000 questionnaires to physicians and health officers, of which 627 were answered. The replies indicated suspicions that most of the diseases to which man is susceptible may have been caused by contaminated bathing water or insanitary bathing place appurtenances. Despite these replies, it must be admitted that there is a great dearth of epidemiological information as to just what sickness is caused by bathing in polluted water.

"Conditions pertaining to bathing waters are decidedly different from those surrounding public drinking water supplies. Many persons swallow little or no water during bathing—particularly is this true of salt water—and there is fairly rapid change of water at the majority of bathing places. These considerations tend to promote likelihood of occurrence of sporadic cases of such diseases as typhoid fever among bathers as against epidemics such as may occur with polluted drinking water supplies.

"Considerable interest has been evidenced by many public health workers in the possibilities of spread of skin infections from bathing. Some cases of skin eruptions on the bodies of bathers have been reported. Some investigators have concluded that a skin infection designated as 'Schistosome dermatitis' has affected bathers in the waters of lakes, rivers, ponds, or beach pools which support snails. The causative agent is said to be the *cerca-ria*, free swimming larval stage of certain parasitic worms, of the family *Schistosomatidae*. Unfortunately it is a fact that little is known as to the exact manner of spread of many skin infections—whether the infection is spread by the use of bathing place appurtenances such as walkways, common towels, suits, or drinking cups, or by other contacts such as might occur on a public playground, or whether the water has acted simply as a vehicle of transmission of disease germs from one bather to another, or whether the infection has been from bodily excretions present in the water.



"Eye, ear, nose and throat infections are reported. Some of these might be due to lowering of resistance from chills; water may wash away protective mucous discharges containing antibodies, leaving the affected parts susceptible; harmful organisms already present in the body may be washed further into the ear and nasal passages during bathing; or excessive amounts of chemicals used for water purification may cause inflammation of mucous membrane and irritation of the skin. These are all possibilities aside from any harmful infections in the water.

"The summary of the replies in the 1921 report, when considered in the light of known epidemiological evidence, leaves this committee unconvinced that bathing places are a major public health problem even though bathing place sanitation, because of the health considerations involved, should be under careful surveillance of the public health authorities, and proper sanitary control of bathing places should be exercised. Indeed, this report is prepared for that particular purpose. It is realized that new epidemiological evidence may develop. It is agreed that common sense public health programs must recognize that bathing in polluted water is a potential danger, that insanitary conditions surrounding public bathing places are a hazard, and that common decency as well as health considerations dictate that reasonable steps should be taken to secure bathing in clean environments.

"These conclusions are stated as an answer to growing demand that this committee or some other group of public health workers propose a rigorous bacteriological or other standard, whereby bathing in certain outdoor bathing waters should be condemned from a public health standpoint. There is submitted in this report a proposed method of intelligent sanitary classification of outdoor bathing places with the inauguration of promotional educational programs to provide safer and more decent conditions as against extensive arbitrary programs of bathing place condemnation, and the recommendations of the 1927 committee toward provision of what are considered to be readily attainable and necessary sanitary precautions for swimming pools are also affirmed."

T. H. M.

## CURRENT STATISTICS

### \*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

	Feb.	March	Estimated Expectancy March
Typhoid	9	4	27
Typhus	10	7	4
Malaria	95	116	63
Smallpox	3	3	42
Measles	134	126	1166
Scarlet fever	112	56	69
Whooping cough	71	53	146
Diphtheria	83	43	86
Influenza	5018	8330	705
Mumps	510	347	165
Poliomyelitis	6	2	2
Encephalitis	1	2	4
Chickenpox	229	208	268
Tetanus	5	4	3
Tuberculosis	295	206	410
Pellagra	14	19	31
Meningitis	6	11	8
Pneumonia	1320	1322	521
Syphilis	778	806	166
Chancroid	8	8	7
Gonorrhea	374	209	233
Ophthalmia neonatorum	1	3	2
Trachoma	0	0	0
Tularemia	3	0	1
Undulant fever	5	0	1
Dengue	0	0	0
Amebic dysentery	0	0	0
Rabies—Human cases	0	0	0
Positive animal heads	90	89	—

\*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years. With the venereal diseases, clinic cases were not included prior to this year.

## BUREAU OF VITAL STATISTICS

Leonard V. Phelps, Director

### REVISED MATERNAL MORTALITY SCHEDULE

In 1934, a special report form was introduced by the Committee on Maternal and Infant Welfare of The Medical Association of the State of Alabama for the purpose of obtaining data relative to maternal deaths. This form proved impractical.

It was suggested at the Health Officers' Conference, held in July 1935, that the form be referred to the above Committee for revision. The Committee has just completed the revision. It is less than half its former size and yet it contains all of the essential facts required in such a report. The form is 8½ by 11 inches in size and covers both sides of one sheet. Plenty of space has been allowed for writing.

It is felt by the Committee that physicians requested to complete the new maternal mortality schedule will not find it a burdensome task. Their cooperation is urgently requested in order that more definite information may be had concerning the approximate 400 maternal deaths each year.

The form follows:

Leave Blank

International Code Number

Cause of Death:

Alabama State Board of Health  
SUPPLEMENTAL INFORMATION FOR  
MATERNAL MORTALITY STUDY

Serial No. ....

Information obtained

By .....

Date

## SECTION 1 (To be filled in from Death and Birth Certificates)

1. Place of death: County ..... City ..... Street, R.F.D., or Hospital .....
2. Residence (town or city and county) .....
3. Name .....
4. Age ..... 5. Color ..... 6. Single or Married ..... 7. Date of death .....
8. Principal cause of death and related causes of importance .....
9. Attendant at death .....
10. Place of Birth: County ..... Town or City ..... Street, R.F.D., Hospital .....
11. Date of Birth ..... 12. Live birth, Stillbirth, Single, Multiple, Mature, Premature. .... mos.  
(Underscore terms that apply)
13. Cause of stillbirth .....

Attendant

## SECTION 2

## Medical and Prenatal History

14. Parity ..... 15. Duration of pregnancy ..... 16. Number of prenatal visits .....
- (a) First (b) Last ..... 17. Medical examination was was not made at ..... month.  
(Month of pregnancy)
18. Non-maternal conditions in mother existing before pregnancy (underscore those that apply and describe below)  
Cardiac, Chronic nephritis, Tuberculosis, Tumor, Cyst, Syphilis and others. ....
19. Intercurrent diseases (Describe in detail) .....
20. Complications of pregnancy: Hyperemesis gravidarum, Pre-eclampsia, Eclampsia, Pyelitis, others.  
(Underscore terms that apply)
- |                         | First Noted | Duration |                             | First Noted | Duration |
|-------------------------|-------------|----------|-----------------------------|-------------|----------|
| (a) Albuminuria         |             |          | (f) Headache                |             |          |
| (b) Convulsions         |             |          | (g) Vomiting                |             |          |
| (c) Edema               |             |          | (h) Bleeding                |             |          |
| (d) High blood pressure |             |          | (i) Blood pressure readings |             |          |
| (e) Treatment           |             |          |                             |             |          |



SECTION 3

Delivery and Terminal History

21. ABORTION—Complete, Incomplete, Septic, Spontaneous, Induced (self), Therapeutic after consultation, Therapeutic without consultation, Indication for therapeutic abortion, Transfused, Operated.  
(Underscore terms that apply)

Treatment

22. ECTOPIC—Delivered Not delivered Treatment

23. DELIVERY DATA (Physician, Interne, Midwife, Other, None, etc.)  
(Underscore term that applies)

24. Assisted by Preparation methods—Shaved, Clipped, Sterile Goods, Gloves, Soap  
(Underscore terms that apply)

25. Anesthetic 26. Number of vaginal examinations 26. Rectal examinations

Presentation  
(State type of presentation)

27. Membranes ruptured (spontaneous, artificial) Hours before delivery

28. Labor (spontaneous, induced) 29. Delivery, (spontaneous, operative) 30. Duration of labor

31. Operative procedure: Forceps (low, medium, high) Version Breech extraction

32. Caesarean Section (low or high) Duration of labor

33. Indications for Operation Consultation? (yes, no)

34. Abnormalities Affecting Delivery and Third Stage:

	First Noted	Duration	Treatment		First Noted	Duration	Treatment
(a) Malposition				(g) Adherent Placenta			
(b) Cervical Dystocia				(h) Atonic Uterus			
(c) Foetal Monstrosity				(i) Ruptured Uterus			
(d) Hemorrhage				(j) Pelvic Dystocia			
(e) Placenta Previa				(k) Others			
(f) Ablatio Placenta							

35. Above complication recognized  
(Period of Pregnancy)

36. Treatment:

NARRATIVE CHRONOLOGICAL HISTORY OF CASE

## Book Abstracts and Reviews

The Pharmacopoeia of the United States of America. Eleventh Decennial Revision (U. S. P. XI). By authority of the United States Pharmacopoeial Convention. Prepared by the Committee of Revision and published by the Board of Trustees. Official from June 1, 1936. Macb Printing Company, Easton, Pa. Cloth, 676 pages.

In the revision of the current edition of the U. S. Pharmacopoeia, 119 products have been deleted and 58 new ones added. The additions include calcium gluconate, chlorbutanol, ephedrine, liver extract, iron and ammonium citrate, irradiated ergosterol, merbaphen, iodized oil, chiniofon, diphtheria toxoid and toxin for Schick test, scarlet fever streptococcus toxin, rabies virus, typhoid vaccine, tryparsamide and old tuberculin.

Monopolized substances are not admitted to the Pharmacopoeia—hence insulin is not included. New drugs and changes in old ones will make this revision obsolete before the expiration of another ten-year period but the Committee intends to publish "Interim Revisions" when necessary. A list of these drugs will be included in the volume on "New and Nonofficial Remedies" published by the American Medical Association. With this volume to supplement the U. S. P., one may keep up with all drugs of importance. The use of Pharmacopoeial drugs and terms will aid greatly toward simplifying prescriptions, assure the writer of purity and protect the patient's pocket-book.

C. K. W.

**Medical Papers.** Dedicated to Henry Asbury Christian, Physician and Teacher. From his Present and Past Associates and House Officers at the Peter Bent Brigham Hospital, Boston, Mass. Robert T. Monroe, editor. Waverly Press, Inc., publishers. Baltimore, Md.

This type of volume is well known to reviewers. The former students and associates of some beloved man wish to do him a significant honor—something offered during his life time that will last for years after he is gone. What could they offer on his altar that would show best their esteem and affection? Obviously no gift would be more appreciated than their daily work. So the loyal friends and devotees of some beloved man contribute the reports of the investigations and research to a volume dedicated in his honor. Now, on his sixtieth birthday, the students and associates of Doctor Christian, wish to honor him for his scientific contributions and his work in organizing the Brigham Hospital, his inspirational effect on his students and his devotion to organized medicine.

In this volume are contributions by Samuel Levine, George Herrmann, James B. McLester, Tinsley Harrison, H. L. Alexander, James P. O'Hare, Warren T. Vaughn, Walter M. Boothby and Channing Frothingham. The articles cover such divergent topics as circulatory failure, tricuspid disease, coarctation of the aorta, thrombo-angiitis obliterans, protein excretion, diuresis, hypertensive disease, pituitary disturbances and physiology, diabetes, some pulmonary conditions, hemopoietic disturbances, liver function, allergy and myasthenia gravis. Significant is the presence of an article on Weber-Christian disease—a condition recently described by Doctor Christian under the ti-

tle, "Relapsing Febrile Nodular Nonsuppurative Panniculitis."

In an appreciation of Henry A. Christian by Warren T. Vaughn, the reader will quickly realize why the man is great. He was thoroughly trained for his work. His research career began at an early date. At 32, he was dean of Harvard Medical School. He played a large and important part in the establishment and organization of the Peter Bent Brigham Hospital. He is a great man, deserving of the praise and commendations given him in this volume. His greatest contribution in his own opinion was "The Training of Men." He edited "Oxford Medicine" and the "Oxford Monographs on Diagnosis and Treatment."

C. K. W.

**Obstetrical Practice.** By Alfred C. Beck, M. D., Professor of Obstetrics and Gynecology, Long Island College of Medicine; Obstetrician and Gynecologist-in-Chief, Long Island College Hospital, Brooklyn. Williams and Wilkins, Baltimore, publishers. 702 pages, 1,000 illustrations. 1935. Price \$7.50.

This text-book by Doctor Beck was written primarily for medical students and incidentally for general practitioners. The author has therefore avoided controversial details and has stressed vital facts. The chapter on the mechanism and management of labor is of particular value not only because of its content but also because of the excellent original drawings illustrating the steps described. The chapter on the toxemias of pregnancy is of great value except that no form of treatment other than that used by the author is included in his description.

A discussion of the medical and surgical diseases complicating pregnancy is particularly well written as are also the chapters on contracted pelvis, operative obstetrics, and puerperal infection. For those who wish more detailed information, the bibliography will point a way to important articles in the world's literature.

A. E. T.

**Lest We Forget**—Many of us can recall the time when the danger of bovine tuberculosis to human beings was a really live question and gave rise to many controversies. American work in 1901 and 1902 proved the danger, against the opposition of Robert Koch, and some leading American physicians preferred to accept Koch's authority to the proved facts furnished by their own countrymen. Except among the veterinarians and the packers, bovine tuberculosis has not been much discussed for some years. The packers are solely interested in the losses they may sustain due to the disease. The veterinarians are interested in suppressing bovine tuberculosis from the professional as well as the economic standpoints, but the medical profession appears to be singularly indifferent. Health officers in general, both state and city, are still actively interested in the pasteurization of milk, which was brought about chiefly through the proved danger of bovine tuberculosis to children.

. . . —Ed., *Am. J. Pub. Health*, April '36.



## Miscellany

### DO YOU KNOW?

(A release of the Medical Society of the State of New York)

The nose, ears, fingers and toes are likely to be colder than the rest of the body.

After the first year of a child's life a common mistake is catering too much to his appetite. Variety is unnecessary and undesirable. Adults need variety; young children do not. Until the age of three or four, young children are better off if they do not eat at the family table; it is easier to satisfy them with plain, simple, well-cooked foods. Refusal to eat should be met by termination of the meal.

Andrew Carnegie's first job paid him \$1.25 per week.

"Robber of the Prime of Life" and "On Your Guard" are the titles of two pamphlets distributed by tuberculosis and health associations in connection with the early diagnosis campaign conducted by the National Tuberculosis Association. Tuberculosis still causes one out of every five deaths between the ages of 15 and 25. The campaign aims to persuade people to seek medical treatment while the disease is still incipient, emphasizing the value of tuberculin test for all children in contact with a case of the disease, and x-ray examinations for all suspected children.

It is interesting to note that 1936 is the fortieth anniversary of the discovery of the x-ray by William Konrad Roentgen. As is usual with all such brilliant discoveries, it was at first taken up by quacks who proclaimed it as a cure for innumerable ailments. It has great value, as an aid to diagnosis in many diseases, when the negatives are read by competent and experienced men. But no machine can take the place of the intelligence and knowledge which are needed to interpret the meaning of shadows on plates in connection with the significance of other symptoms.

Cream and eggs sweetened with saccharine are found to make a satisfactory ice-cream for diabetic patients.

How to get what you want: don't want what you can't have.

Test for the resistance of a building to earthquake is whether it can stand horizontal pressure equal to one-tenth of its weight. This test was first set up as a standard by Japanese architects and engineers, and it has been accepted generally throughout the world.

It is well established that every part of America was healthful—before the arrival of the white man.

Doctors always submit their ideas to other doctors, and check their experience with the experience of others, before public statements are issued regarding new developments in medicine. This is a process of self-discipline and self-criticism which the profession has developed to protect the public from exploitation.

A quack is a man who talks about medicine to everybody but doctors.

Many of the difficulties which cause these deaths of mothers can be discovered early, and prevented from becoming serious. A baby is nine months old the day it is born. The time to seek advice and guidance is just as soon as it is known a baby is expected.

In ancient Ireland, a suspected person's hand was immersed in the "Cauldron of Truth," containing boiling water; if his hand was burned he was guilty, if innocent, "no harm was done to him."

The Spartans threw their weak babies over the cliffs to strengthen their hereditary stock. If the practice had continued, we would never have had a mature Isaac Newton, Victor Hugo or Daniel Webster. Herbert Spencer lived to a ripe old age but was an invalid all his life; Darwin was never quite well; Kant's body was frail; Heine suffered painfully all his life. Always man has shown he can rise superior to any disability or obstacle. The great physician Osler's formula for a long life was to get some chronic disease and nurse it.

These are rare instances of men of genius. They are exceptional. A number of surveys have shown that in general, the superior in mind are either equal or superior in physique.

A hot bath with an ice-pack applied to the head is the best treatment when children have convulsions, while waiting for the doctor to come. Be careful the water is not too hot, children are often scalded during the excitement that prevails on such occasions.

"Colds" are not due to cold weather—Eskimos do not have them unless they come in contact with white men.

"Vitamin" means "life-carrier."

More than 700,000 different insects have been named and described by scientists.

Harbors on the American side of the Great Lakes are getting deeper while those in Canada are growing more shallow, according to Capt. H. V. Canan, U. S. Corps of Engineers, who claims this is due to a gradual earth "tilt" in this locality.

Most parents are so busy training children in such good habits as eating regularly that they fail to help them form the habit of liking people. Development of this characteristic will often prevent fussing about food, temper tantrums, lying, disobedience, jealousy and many other bad habits which cannot be easily corrected by direct injunction.

Sleep ought to be measured carefully: different individuals have widely varying needs in the amount of sleep required. Loss of sleep for one or two nights can be made up but habitual loss of sleep will eventually break down the most rugged system.

Earth waves created by earthquakes have been known to travel twice around the globe.

Men are twice as likely to have appendicitis as women, according to a report of three Cincinnati physicians: Mont R. Reid, D. Henry Poer and Paul Merrell.

Children are in the greatest danger from communicable diseases during the preschool age. The best prevention is through immunity, which in some diseases such as diphtheria and smallpox can be scientifically created. The first disease to be fought in this way was smallpox. Before vaccination became common, smallpox was considered a disease of childhood, because few individuals were able to pass the period of early youth without having it. So nearly vanquished is smallpox today that many physicians practice medicine a life-time without encountering more than a few cases. If children are to be protected today from smallpox, they should be vaccinated during the preschool age.

Oysters require two to four years to grow big enough for the market.

Each year from 15,000 to 20,000 individuals fall victims to what is known as dementia praecox soon after adolescence or in the first flush of manhood or womanhood. Properly handled about 40 per cent of these can be returned to effectual life; but the other 60 per cent will go on to a disorganization of personality that will be associated sooner or later with the intellectual deterioration that will make it necessary to segregate them.

Announcement has just been made that a fund of \$40,000 has been made available for a program of investigation and study of dementia praecox under the guidance of leaders of American psychiatry. The National Committee for Mental Hygiene states that the money has been given by the Ancient Accepted Scottish Rite, Northern Masonic Jurisdiction.

The National Committee for Mental Hygiene deserves most of the credit for removing the term "insanity" from the vocabulary of well-informed people. This is the last of similar taboos to go, following the disappearance of "consumption"—replaced by "tuberculosis." Prejudices and superstitions surrounded tuberculosis and mental disease so long as the words which described them connoted shame. Words, like people, can get into bad company, it seems.



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### APPENDICITIS IN INFANCY AND THE YOUNGER GROUP OF CHILDREN\*

By

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Appendicitis may occur at any age after birth. It is rare during the first year, but after this time it is the most frequent, the most important and the most serious of the emergencies of abdominal disease in childhood. The diagnosis of appendicitis may be and often is a difficult problem at any age, but it is peculiarly so in infants and very young children. Subjective aid may be incomplete, inaccurate or lacking altogether, and objective evidence may be unsatisfactory or negative. Even when one is on the alert, there are instances where the picture is so baffling and the examination so puzzling or misleading or negative, that a diagnosis is delayed or not made at all. Naturally, the younger the patient, the more difficult is the diagnosis. Fortunately, however, in the majority of cases, and especially so as age increases, the clinical picture is just as clear-cut and characteristic and as easy to interpret, and the examination as satisfactory as in adults. Some of our perplexities, too, are counterbalanced by the ease of making a systematic and thorough examination of the whole body of a child.

In the younger group (1) the difficulty of diagnosis, owing to the insidious onset and the obscure clinical picture; (2) the tendency to early perforation, with rapid spread of inflammation and overwhelming

toxemia; and (3) the higher mortality are generally acknowledged. Certain anatomic anomalies and variations help to explain these conditions. The cecum may not have rotated or descended normally. The appendix itself is relatively much larger, longer, and more funnel-shaped. It contains a much larger proportion of lymphoid tissue and is much more delicate in structure. Its position is less constant, usually being located above McBurney's point, but it may be found in the pelvis, up under the liver or well over on the left side. It may be deformed by adhesions or held fixed by a vestigial band or fold. Sometimes it is retroceally placed and completely buried. When perforation of an inflamed appendix occurs, the delicate omentum, often veil-like in thinness, offers but a feeble barrier to the spread of inflammation. Knowing these anatomic differences, it is easy to understand why appendicitis may be more insidious in onset, the spread of infection more rapid, and the intoxication more overpowering—in short, it is not hard to see why this disease is so serious in the very young. On the other hand it is not reasonable to conclude that the tendency to perforation, with spreading peritonitis or abscess formation, is the rule at this period of life. It is my impression that acute appendicitis is not at all uncommon in young subjects. The majority of cases, I believe, are not diagnosed and go on to spontaneous recovery. Many instances of indigestion-colic, gastro-intestinal upsets, allergic manifestations, acidosis, cyclic vomiting, etc., are in reality examples of unrecognized appendicitis. The acute infectious diseases, when accompanied by abdominal pain, vomiting, and local sensitiveness, not infrequently have an associated appendicitis as a complication. In every attack of abdominal pain, with vomiting and fever, it is a wise

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\*Read before the Association in annual session, Montgomery, April 21, 1936.

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rule to assume that the appendix is involved and then proceed to verify or to rule out this suspicion. The habit of deciding, after a superficial examination, that the disorder is due to dietary indiscretion and that a laxative will relieve the symptoms, is responsible for many unnecessary deaths. The mortality in acute appendicitis is known to be due largely to delay in making a diagnosis, to delay in operating, and to the almost universal habit of prescribing laxatives for abdominal upsets. The alliterative sequence is pain, purgation, procrastination, perforation, peritonitis, and then panic when the peril is perceived.

The mortality in acute appendicitis in the extremes of age is high, but especially so in the very young. All observers are in accord on this point. In nurslings it is over 70 per cent. Abt collected from the literature eighty cases under two years of age, with a mortality of 50 per cent. Under six years it is variously estimated as from 15 to 40 per cent. Beekman reported seventeen cases under five years of age, with a mortality of 35 per cent; Bolling, forty-two cases, under six years, with a mortality of 19 per cent; Helmholz, fifteen cases, under five years, with a mortality of 47 per cent; Keyes, twenty-three cases, under five years, with a mortality of 30.43 per cent; Maes, twenty-two cases, under six years, with a mortality of 22.7 per cent; and Heyl, ninety cases, under five years, with a mortality of 11.1 per cent. This high death rate means failure to recognize the disease early, or delay in instituting surgical treatment, or flagrant mismanagement in administering purgatives, when the diagnosis is in doubt.

*Symptoms and Diagnosis:*—Abdominal pain, generalized at first, and referred to the epigastrium or umbilicus, then later localizing in the right lower quadrant, nausea, vomiting, moderate fever (99½ to 101), muscle spasm and point tenderness—this is the typical text-book picture of the disease. Occasionally the symptoms develop slowly and irregularly, with little constitutional evidence of infection, and it is impossible to make a diagnosis early. Rarely, and fortunately so, an explosion, with early perforation and peritonitis, may flash with startling suddenness. "Too sick, too quick," however, generally means some acute infection other than appendicitis. The white and differential blood count may be of help,

but often it is misleading, and it is not nearly so reliable as in older patients. The Schilling count, too, is said to be of aid in gauging the severity of the infection, but I cannot, of my own experience, offer testimony as to its value. When the subjective evidence is in favor of appendicitis, but the confirmatory objective signs can not be elicited, owing to the lack of co-operation on the part of a young patient, never hesitate to resort to light anesthesia for further examination. Often this measure will clear up all doubts. If still unable to make a diagnosis, declare an armistice and "sit tight" temporarily. During this time see that the patient has absolute rest, no narcotics, and nothing by mouth. Apply moist cold or heat to the abdomen. Keep up the fluid balance and nourishment by the subcutaneous or intravenous administration of saline-glucose solutions. After a short period of meditation and watchful expectancy, if still in doubt, go ahead and operate. Personally I have never regretted this policy and on the occasions when appendicitis was not uncovered, some other surgical lesion was found, which called for operative treatment.

In the differential diagnosis it is of the utmost importance to exclude pleural, pulmonary, pericardial, and even meningeal inflammations. A circumscribed or central pneumonia, or a diaphragmatic pleurisy, without physical signs, may be mistaken for appendicitis. The minutest attention to details is necessary in order to avoid errors. A chest roentgenogram should be ordered when in doubt. Other medical conditions which may cause confusion or doubt are: (1) gastro-enteritis, (2) acute right-sided pyelitis, (3) Henoch's purpura, and (4) occasionally rheumatic fever. Among the surgical conditions to be borne in mind are: (1) intussusception and other types of intestinal obstruction, (2) mesenteric lymphadenitis, (3) peritonitis, not due to appendicitis, (4) inflamed or adherent Meckel's diverticulum, (5) stone, inflammation or obstruction affecting the right kidney or ureter, (6) inflamed mesenteric or omental cysts, (7) pelvic disease in females (salpingitis, or inflammation or growth of the right ovary), (8) inflammation or torsion of an undescended testicle, (9) duodenal ulcer, (10) cholecystitis, (11) infections of the spine (psoas



abscess), bony pelvis or right hip-joint, etc. Appendicitis, too, may complicate or be associated with tonsillitis, pneumonia, influenza, measles, scarlet and typhoid fevers, and the various affections already enumerated. One should never be satisfied with a single diagnosis of tonsillitis or measles or what-not in the presence of pronounced abdominal symptoms, otherwise appendicitis is going to be overlooked occasionally.

In studying appendicitis in children the cases should be divided into two groups. The first should take in all cases from birth up to and through the sixth year, and the second group should include all the older children. Too little consideration has, as a rule, been given to a separation of these age groups. In the younger division are encountered the most difficult diagnostic problems, the greater tendency to perforation and peritonitis, and a much higher mortality. Older children present fewer

diagnostic difficulties and show a morbidity and mortality rate which compares favorably with that of adults. In fact, in the experience of the writer, his results have been more generally favorable at this than at any other period of life. Among several hundred cases of appendicitis in children all the deaths, with but two exceptions, were in the younger group.

This personal experience is based on a series of 132 cases of appendicitis in the younger group and supplies the data for such impressions and comments as are embodied in this paper. In the majority of instances the findings at operation and the laboratory reports are in accord. Occasionally the clinical symptoms and the macroscopic anatomic findings did not agree with the diagnosis of the pathological laboratory. No cases have been included in this review, however, in which the laboratory gave normal or negative report.

There were, under one year of age, 12

FATAL CASES OF ACUTE APPENDICITIS

<i>Age</i>	<i>Sex</i>	<i>Time sick before operation</i>	<i>Additional diagnosis</i>	<i>Time between operation and death</i>	<i>Apparent cause of death</i>
3 years	M	5 days	Multiple abscesses and general suppurative peritonitis.	4 days	Paralytic ileus. Sepsis.
3½ years	M	5 days	Abscess and peritonitis.	14 days	Fecal fistula, sepsis and exhaustion.
4 years	M	3 days	General suppurative peritonitis.	13 hours	Sepsis.
4 years	F	10 days	Rupture of localized abscess with general peritonitis.	3 days	Sepsis.
5 years	F	9 days	Spreading peritonitis.	7 days	General peritonitis and sepsis.
5 9/12 years	M	4 days	General suppurative peritonitis.	5 days	Sepsis.
6 years	M	About 30 hours	Buried retrocecal appendix. Acute mesenteric lymphadenitis. History of injury, punch in abdomen.	4 days	General suppurative peritonitis and sepsis.

cases; from one to two years 7 cases; from two to three years, 12 cases; from three to four years, 11 cases; from four to five years, 28 cases; from five to six years, 25 cases; and in the sixth year, 37 cases—making a total of 132 cases. My youngest patient was only four months of age. (My associate, Dr. R. Franklin Carter, operated upon an infant only four weeks old, and successfully removed a gangrenous appendix.) Males were affected in ninety-eight and females in thirty-four instances—a ratio of almost three boys to one girl. Eighty per cent of the cases were of the acute, and twenty per cent were of the so-called chronic variety. The former ranged from mild acute to the very worst types of appendicitis, with abscess, gangrene, perforation and more or less widespread peritonitis. The chronic cases, for the most part, gave histories which suggested previous acute attacks.

There were seven deaths among the 132 cases operated upon giving a mortality of 5.03 per cent. There were no deaths in thirty-one cases, ranging in age from four months up to three years; two deaths between three and four years; two deaths between four and five years; two deaths between five and six years; and one death in the sixth year. It is not surprising that a certain number of late and obviously mismanaged cases die after operation. The amazing thing is that so many recover in spite of delay and neglect. There is practically no mortality in the early and properly handled cases, and it is far less than one would expect in the late and neglected ones. Contrary to popular teaching, young subjects show remarkable resistance in combating this infection.

*Etiology:*—A pin was found in the appendix of one of the acute cases, but other real foreign bodies were seldom discovered. Pin worms were seen occasionally in the acute cases, and quite often in the chronic ones. Unquestionably intestinal parasites cause irritation in an appendix, but how often they precipitate an acute attack is problematical. Tuberculosis was found in one or two instances. Fecaliths and fecal concretions were met with in a relatively large number of cases. Their presence in an appendix always indicates functional disorder, due to intrinsic stricture or spasm or to extrinsic deformities which interfere

with the in and out flow of mucus and feces. This brings us to the real cause of both acute and chronic manifestations of appendical disease—*obstruction*. Any interference with the blood supply of, or any interruption of the mucus-fecal current or tide into and out of, the appendix will bring on an attack of colic. It may be mild or severe, depending on the nature and the extent of the obstruction. If the appendix empties its contents into the cecum, relief follows, but if infection supervenes then acute appendicitis develops with all of its potentialities.

Operations have been performed upon cases of appendicitis during the course of other diseases, such as acute tonsillitis, influenza, pneumonia, pyelitis, nephrosis, etc. Whether the infection is hematogenous or just a coincidence, it is difficult to decide. The simultaneous occurrence of acute appendicitis and acute intussusception, of acute appendicitis and acute mesenteric lymphadenitis, of acute appendicitis and an inflamed Meckel's diverticulum, of appendicitis and other surgical emergencies, such as an inflamed mesenteric cyst, an ovarian cyst with a twisted pedicle, an incarcerated inguinal hernia, etc., have been encountered on a number of occasions. A silent and unsuspected acute appendicitis was found in operating upon a case of Hirschsprung's disease. On the other hand we have operated for acute appendicitis, with peritonitis, and found instead a fish-bone perforation of a Meckel's diverticulum; a foreign body perforation of the head of the cecum; an inflamed omental cyst; acute mesenteric lymphadenitis, etc. Fortunately, these diagnostic errors made no difference, for there were distinct indications for surgery. Also in operating for other definite surgical lesions, many examples of "incidental" appendicitis have been uncovered.

*Chronic Disorders Of The Appendix:*—It has been suggested that the terms "appendicosis" or "appendicopathy" or the "chronic appendix syndrome" be used instead of chronic appendicitis. "Rightsideitis" was mentioned by one facetious surgeon. No longer can it be denied that such a condition actually exists. The investigations of conscientious surgeons and pathologists have led already to a better understanding of so-called chronic appendicitis. Unquestionably it is a real disease, and no



longer should suspicion be cast upon it as an illegitimate orphan. That the trouble may be more functional, caused by obstruction, than due to inflammation is granted. We find the same intrinsic and extrinsic evidences of obstruction as in the acute cases, lacking only infection to precipitate the acute attack. Incidental appendicitis is associated so regularly with right inguinal hernia in children that it is our rule to investigate the condition of the appendix in all hernia operations. It is the exception to find a normal appendix in a child, who has had a hernia, unsupported by a truss, for any considerable period of time.

Recurring attacks of abdominal pain, usually of short duration, with nausea, with or without vomiting, with normal temperature or only slight fever, are the chief characteristics of chronic disorders of the appendix. Point or localized tenderness, in the absence of abdominal sensitiveness elsewhere, is a significant objective sign. A systematic general physical examination, including all laboratory aids, and an x-ray study of the gastro-intestinal and genito-urinary systems, should be made in these cases, to exclude all possible constitutional and reflex causes of abdominal pain. After a correlation of all of the clinical and laboratory data, if nothing else is found to account for the symptoms, then the appendix should be indicted and its removal advocated. There have been no deaths of my own, nor have my associates had any mortality whatsoever in this group of cases.

In the management of appendicitis, pre-operative preparation, postoperative care and surgical technique have reached such a high degree of efficiency that little further advancement can be expected along these lines. If our future results are to be bettered materially, improvement must come from (1) earlier diagnosis, while the disease is still confined to the appendix, (2) the recognition of attacks of mild acute appendicitis, and (3) an appreciation of the disorders which may arise from a chronically crippled appendix, as well as the always present potential dangers, if acute infection occurs in such an organ, since there is no known treatment that will prevent the disease. We must educate ourselves to the point of taking advantage of the specific remedy at hand, which is practically free of any mortality or morbidity.

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## DISCUSSION

*Dr. A. A. Walker (Birmingham):* In the diagnosis and treatment of acute appendicitis in children it is absolutely necessary to have perfect team work between the surgeon and the physician accustomed to seeing sick children in his everyday work. The pediatrician knows that the commonest complaint of young children is the stomach ache, and he knows that this is the chief complaint in many acute infections and that it is frequently accompanied by nausea and vomiting. He also knows that the great majority of these little patients do not have surgical appendicitis. He should know, however, that acute appendicitis is a fairly common disease even in infancy and should constantly have in mind the possibility of its presence. In other words he should be a surgically minded pediatrician and should seek for those signs and symptoms which would justify a diagnosis of this disease.

This means a carefully taken history and a complete physical examination, particular attention being paid to the throat, the lungs and the urine. It must be realized that acute appendicitis in the young individual is a surgical emergency and if the mortality is to be materially lowered promptness in arriving at a diagnosis is imperative. And, if the symptoms cannot be satisfactorily explained on any other basis than appendicitis, operation should be advised. All cases of appendicitis will complain of pain in the abdomen, but other confirmatory evidence is necessary before this diagnosis can be made. The most reliable sign is tenderness which is localized rather early in the attack, but to elicit this very important symptom requires above all great tact and patience on the part of the examiner. Little information can be gathered from a badly frightened and indignant young child. It is, therefore, a good plan to gently palpate the abdomen through the night dress if necessary before proceeding with the rest of the examination.

I believe that too much stress has been placed on the behavior of the leucocytes in the diagnosis of appendicitis. A high count early in the course of the illness, and by this I mean counts over twenty thousand or twenty-five thousand, is of more value in ruling out probable appendicitis than of being a confirmatory finding. This is especially

true if accompanied by very high fever. It should be realized that there is little change in the leucocyte count, including the differential, early in the disease when it is most important to arrive at a diagnosis and institute surgical treatment.

Many authors have pointed out the fact that acute tonsillitis is very frequently accompanied by abdominal pain which at times very closely simulates appendicitis. This is believed to be due to lymphadenitis of the abdominal nodes. This complaint of abdominal pain is so commonly met with in this disease that it makes essential a thorough throat examination. Acute tonsillitis cannot be ruled out because the child says the throat does not hurt. It is the exception rather than the rule for a child to complain of pain on swallowing.

As the author pointed out, these two diseases do occur together occasionally and the only safe procedure is to operate if localizing symptoms are marked. Brennemann has called attention to the fact that appendicitis in young children is met with much more frequently when there is an epidemic of acute respiratory diseases, especially when characterized by throat inflammation.

Many children have had a laparotomy for acute abdominal inflammation when the inflammation existed in the lungs. One should be constantly on his guard to avoid making this error. Fortunately children recover from lobar pneumonia under the most unfavorable conditions but in spite of this it is always disconcerting to open the abdomen expecting to find obstruction or an acutely inflamed appendix and have our patient continue with high fever and the same old belly ache. A history of sudden illness frequently with a chill followed by high fever and a leucocyte count above twenty-five thousand or thirty thousand should make one pause and consider if he is to avoid this embarrassment. As the author has so aptly said, "too sick, too quick" should call for hesitation in the operating room. However, even here one may very rarely have the unfortunate experience of appendicitis occurring as a complication of pneumonia.

Although it might be presumptuous on my part to speak of the purely surgical aspects of this subject I flatter myself in thinking that I am surgically minded enough to express myself on it. I refer to extensive surgery on a patient whose disease has progressed to the point of perforation and spreading peritonitis. I am of the opinion that better results will be obtained by withholding operation, while instituting appropriate treatment with the hope that the inflammation will localize. This means the maintenance of body fluids, the use of duodenal tubes, etc.

In conclusion I would urge and emphasize that surgeons become pediatrically minded and pediatricians become surgically minded in dealing with young children who complain of the stomach ache. Only in this way can appropriate treatment be given. Even under the best conditions, however, occasions will arise when we will have to be grateful to the pathologist who saves our faces by finding an area of faint congestion in an appendix otherwise normal, but no great harm will have been done by its surgical removal.

## OCULAR TUBERCULOSIS\*

By  
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Tuberculosis of the eye presents diagnostic, as well as therapeutic, problems of such great interest to both oculist and internist that it has seemed to be a suitable subject to present to this audience for discussion, especially since it has not been my experience to get full and satisfactory cooperation from the internist or general practitioner in either the diagnosis or treatment of patients so affected.

In considering ocular tuberculosis it is thought best not to speak at this time of those forms affecting the skin of the lids, such as lupus, nor tuberculosis of the conjunctiva, but to consider those cases in which the ocular infection is from within, i. e., endogenous, and usually hematogenous, and not conditions in which there is at least a probability that the infection is air-borne, or exogenous. We speak, of course, of the infection of the eye, because we know that practically all tuberculous infection enters the body either by aspiration of infected air or the ingestion of infected milk.

The frequency of ocular tuberculosis is difficult to estimate with accuracy, but it is not at all uncommon. O'Brien (*The Eye, Ear, Nose & Throat Monthly*, January 1936, XIV: 12) says it is estimated that perhaps one-half of all cases of chronic uveitis are due to tuberculosis, and that it should be suspected in any low grade chronic uveitis in which the onset has been insidious and which is characterized by little or no pain, few signs of congestion, a tendency to relapse, a destructive nature and intractability to treatment. I would eliminate the last two features, as most of my cases are neither of a destructive nature nor intractable. For a number of years there has never been a time when we have not had several cases of ocular tuberculosis under treatment.

To quote from another source that can be considered authoritative, the late Dr. W. C. Finnoff (*Proceedings of the Association for Research in Ophthalmology*, Philadelphia, 1931): "We now know that tuber-

\*Read before the Association in annual session, Montgomery, April 22, 1936.



culosis plays an important part in the production of uveal diseases. Its frequency in human cases is difficult to estimate. In central Europe the percentage of cases of chronic uveitis that are classified as tuberculous greatly exceeds the number so diagnosed in this or other countries. The only possible way to make an exact diagnosis is by microscopic examination of enucleated eyes. This, however, is done only in a relatively small number of cases. In the majority the determination of a tuberculous etiology is based on the following conditions: The clinical appearance of the diseased eye, course of the inflammation, diagnostic reaction to tuberculin, influence of tuberculin on the ocular lesion, influence of therapeutic agents, effect of local treatment, the result of hygienic measures, the history of exposure to tuberculous infection, and the demonstration of active or latent foci in the body, either by physical examination or by means of x-ray. The locating of the latent foci or the finding of active clinical signs of tuberculosis is not always possible, and the apparent absence of either, while adding evidence against, should not entirely exclude the possibility of tuberculosis as an etiological factor."

Ocular tuberculosis is a disease of young people, that is, under thirty-five and usually under thirty, and it almost invariably occurs in apparently robust persons with no general symptoms. The forms of which we wish to speak are those affecting the cornea, sclera and uveal tract.

We strongly suspect that a certain type of deep-seated corneal inflammation is tuberculous, although we must be careful to exclude congenital lues as a cause. The well-known interstitial keratitis of congenital lues has several features which should lead to its recognition. The family history, the serologic tests of both patient and parents, the involvement of both eyes, usually not at the same time, and the association of Hutchinson's teeth and other signs help in the diagnosis. Tuberculous keratitis is not so severe, more chronic, and prone to recur, while other signs of congenital lues are lacking. Tuberculous keratitis sometimes seems to represent the invasion of the cornea from an inflammation of the sclera—a sclero-keratitis or sclerosing keratitis. Various forms of inflammation of the sclera and episcleral tissue are sometimes thought

to be tuberculous. This condition, as indeed all the inflammatory lesions of which we are speaking, may be due to focal infections. In America they are frequently so regarded, while the same conditions in other countries, Germany especially, would be more apt to be considered tuberculous.

By far the commonest form of ocular tuberculosis is that of the uveal tract, i. e., the iris, ciliary body and choroid. It is not intended to speak now of tuberculosis of the retinal vessels and the recurrent vitreous hemorrhages that follow it. In the description of the uveal disease it will only be attempted to be sufficiently explicit to indicate the conditions that I have in mind.

Tuberculous iritis may be of two forms. In one we have a simple iritis with tendency to recurrence, and with so little inflammatory action that the presence of adhesions is often the first indication of trouble. The other form is characterized by the presence of tubercles, which vary in size, location and number, so that they are not reliable diagnostic signs. There is a tendency, however, for tuberculous nodules to develop near the root of the iris, while gummata are often seen at or near the edge of the pupil.

Inflammation of the ciliary body always accompanies to some degree an iritis. Unless there is localized pathology, like a tubercle, it is hardly to be separated clinically from iritis.

When the choroid is involved we find several manifestations. Deposits on the posterior surface of the cornea, so-called keratic-precipitates or K.P., are common and significant and are thought to be deposits thrown from the aqueous against the cornea by centrifugal force. They are usually larger in tuberculous than in other forms of uveitis, as will be illustrated. Vitreous opacities are usually, sometimes very dense, and with a corresponding effect on vision. We think a web-like opacity with many dots, to which we have applied the name "dotted-veil type," is highly significant of tuberculosis. The other sign is the actual presence of a characteristic inflammatory lesion in the eyeground, which can be seen with the ophthalmoscope. Sometimes the vitreous is too cloudy to permit a view of these lesions, but when seen they are fluffy white areas, not to be seen clearly with any lens, and fading off to normal tissue. They

are likened to balls of fluffy cotton or wool, and are thought to be tubercles. Primarily in the choroid, they involve the retina to such a degree that the retinal vessels are obscured by the accompanying edema and exudate, but the vessels are not involved, and, when the lesion heals, a rounded pigmented area remains, crossed by normal retinal vessels. Unless the lesion is central, i. e., at the macula, the eye usually heals with good vision.

The outstanding characteristic of these lesions is their slow progress and tendency to recurrence. So often we see in such a case not only a fresh lesion, but unmistakable scars of previous ones, long healed. When such a case presents itself for study the ophthalmologist's point of view is that, if focal infection and lues can be eliminated, tuberculosis is the most probable cause. The internist's view is that such localized tuberculous lesions are most likely secondary, and the usual methods of investigation should show the primary lesion, but do not. The great majority of such cases are secondary, and in clinics trained in the study of tuberculosis (Werdenberg, of Davos) the primary focus was located in 78 out of 110 eyes. The most frequent focus is intrathoracic, not an acute or severe or well-marked disease of the lung proper, but a chronic or slumbering tuberculosis, located mainly in the hilum and paratracheal lymph glands, from which the bacilli are disseminated through the blood. Finnoff says that "it is now generally conceded that with rare exceptions all types of tuberculosis of the uveal tract and other parts of the eye are secondarily infected from a focus in some remote part of the body." Sometimes the tonsils may harbor the focus, and in one case of recurrent tuberculous keratitis it seemed positive that it was in the pelvic organs. Very few cases of ocular tuberculosis are seen in patients with marked pulmonary tuberculosis, but this may be explained by the view that pulmonary tuberculosis is usually an exogenous infection in people who are not periodically immunized from an old glandular focus. (Meisner, Zeit. f. Augenheilk., May 1931, V. 74). The tuberculosis is of the non-clinical variety and no symptoms exist except those in the eye. Moreover, the infection of the eye occurs mainly in the second phase of the general disease, that of dis-

semination and increased sensitivity, when the bacilli get into the blood stream and we have a metastasis of a bacillemia. The ocular lesion is protected from secondary infection, which is not the rule in pulmonary tuberculosis, and the two lesions therefore do not act alike. There is no secretion, such as sputum, to examine for bacilli, a biopsy is not possible, and the specific focal reaction from an injection of tuberculin, while excellent evidence of the tuberculous nature of the local process, is sufficiently dangerous when provoked in the eye to make one hesitate to produce it.

In referring to the stages of tuberculosis we have in mind Ranke's division into three stages, which has a clinical usefulness, although not generally adopted. Ranke (Beit. Z. Klin. d. Tuberk. 1911-21) proposed the following divisions:

- (1) The initial localization of the infection, which, with the corresponding lymphatic gland, constitutes the "primary complex."

- (2) A secondary stage of generalization, with the development of hypersensitiveness and often the formation of hematogenous metastasis.

- (3) A tertiary stage with relatively high immunity and isolated organ tuberculosis.

Living bacilli may persist in lesions for years and decades despite calcification and fibrous encapsulation, and may at times be discharged into the blood stream either from the pulmonary lesion or a lymph node. This hematogenous dissemination is at the basis of Ranke's secondary stage, generalization of the infection.

Without attempting a description of the different forms of ocular tuberculosis, we may say that the clinical forms are varied, granular, miliary, granulomatous sclerosing, necrotic, serous, or sero-plastic. A diagnosis is made by an inquiry that neglects no system, and is usually, as stated before, a limited choice between focal infection, syphilis and tuberculosis. The diagnosis is usually one of probability only, since specific clinical signs do not exist.

Another condition from which intra-ocular tuberculosis must be differentiated is tumor. The characteristics of each are usually sufficiently marked to make the distinction easy.



To state in as few words as possible my own conception of some of the facts about tuberculosis and its ocular manifestations, it seems that infection with the tubercle bacillus causes a defensive reaction in the body, which is immunity. The tissues themselves become sensitive, which is allergy, and when more tuberculo-protein, such as tuberculin, is introduced, a reaction occurs, which is an allergic reaction. Tubercles form, e. g., in the iris, before there is any considerable allergy. Exudative inflammation, without tubercles, is allergic. It is probable therefore that many of the things we call ocular tuberculosis are allergic manifestations and not specific.

Besides the clinical signs, the various preparations grouped together as tuberculin are used in diagnosis as well as in treatment. There are about one hundred different forms of tuberculin, and I am not even familiar with the names of all of them. The best known, and most used are: (1) Koch's Old Tuberculin (O. T.), a product obtained by boiling for one hour tubercle bacilli grown on glycerin bouillon, filtering, and evaporating to 1/10 the original volume. It is therefore a glycerin bouillon extract of tubercle bacilli; (2) Koch's Bacillus Emulsion (B. E.), which is a glycerin and water suspension of dried pulverized bacilli; (3) Deny's Bouillon Filtrate (B. F.), which is similar to old tuberculin that has not been heated or concentrated; (4) Von Ruck's Vaccine, made up of several extracts of tubercle bacilli grown on glycerin broth and killed with phenol; (5) Seibert's Purified Protein Derivative of Tuberculin; (6) Toeniessen's Tebe-protein, a comparatively pure product obtained by chemical extraction of tubercle bacilli and (7) the A. O. of Arima. Of these, my own experience has been practically limited to O. T. and B. E.

Many diagnostic methods have been devised, but probably, the safest, most accurate, and best is the intradermal injection of Mantoux. An injection of 0.0002 mg. of the Purified Protein Derivative of Seibert or other tuberculin is made into the skin on the flexor surface of the forearm. If there is no reaction within 48 hours a second injection of 0.005 mg. is made. If no reaction occurs, the test is negative.

In regard to treatment, we have the general or non-specific treatment, consisting

of open air, rest, exercise, diet and physiotherapy, and the specific treatment, tuberculin. We think tuberculin is helpful in such cases, while the internist is skeptical or frankly hostile to it, basing his opinion on the results in pulmonary tuberculosis.

To delve a little into this matter of tuberculin, its advocates, and I am one of them, think that only cases without fever, pursuing a slow course, showing no tendency to progress, but manifesting a strong tendency to fibrosis, are suitable for this treatment, and it follows that tuberculin is a remedy for those forms of tuberculosis which are spontaneously curable. It is admitted that "tuberculin is not a specific remedy for tuberculosis, as is antitoxin for diphtheria and tetanus. The antibodies it produces do not neutralize *in vitro*. Tuberculin does not produce immunity, unlike other specific remedies, and it is powerless against the purest form of the disease, miliary tuberculosis." (E. V. L. Brown.) It is certainly not the remedy *par excellence* of the tuberculosis specialist. "Uveal tuberculosis is mainly a manifestation of the second phase of tuberculosis, in which there is marked hypersensitiveness, active immunity, and marked tendency to spontaneous cicatrization of both lung and eye lesions. It is the exudative manifestation which endangers the organ, and tuberculin probably should not be used in this stage of ocular tuberculosis nor in generalized miliary tuberculosis. No cures by tuberculin are to be expected in the third stage of massive organ destruction. Its use is properly confined, as it is for tuberculosis in general, to the secondary or fibrosing early third stages, in which spontaneous healings are very frequent." (E. V. L. Brown.) Used in this stage, the eye men think they find it helpful, and for myself I can say I have certainly never seen it do harm. The psychic effect is not to be overlooked, and it may act to some extent as any foreign protein, though we avoid a reaction from it. There is nothing spectacular about it, and one dose accomplishes nothing unless it is too large and causes a focal reaction, which may help or may do harm. "For forty years eye specialists have continued to rely on tuberculin, an agent largely discredited by the general tuberculosis specialist, and never used by him to the exclusion of open air, rest and diet. On the other hand, eye

specialists have largely ignored what the tuberculosis specialist has done with open air, rest and diet. The eye specialist has been too content simply to see the eye tuberculosis get well and has not given due consideration to the matter of recurrences, which means that the source of the infection is still active." (E. V. L. Brown.)

Probably no one considers tuberculin absolutely essential in the treatment. Cases get well without any treatment, others on general tonic treatment with rest, others do well on potassium iodide and bichloride. But I am fully convinced that all cases do better with proper tuberculin treatment, unless complicated by an active tuberculous lesion elsewhere that may contraindicate tuberculin. In many cases I have seen other measures fail to bring relief, and complete and permanent healing follow the use of tuberculin.

We will not go into the preparation or method of administration, except to say that its use is still somewhat empirical, that the dose must be very small and gradually increased, and stopped if a reaction appears. It must be continued for months, probably a year. As stated, my own experience is almost limited to O. T. and B. E. We begin with 0.001 mg. given three times a week and increase it till 1.0 mg. is being given. This is continued once a week for a year, unless a general reaction occurs at any stage of the treatment. Under those circumstances the tuberculin is stopped and in a few days begun in smaller doses than that causing the reaction, and again gradually increased. Larger doses, even 100 mg. (Wilmer), are sometimes given.

More recent are such plans as that proposed by Schieck of Wuerburg of the treatment of tuberculous iridocyclitis by the introduction of the patient's own blood into the anterior chamber after withdrawal of the aqueous. It is spoken of as prospectively helpful. Chemotherapy, by gold preparations, has had some mention, and more evidence has been given in favor of the x-ray (Scheerer, 36 cases), radium (Kumer and Sallman, 30 cases), and ultra-violet rays (Duke-Elder, 12 cases). The healing powers of nature and the unfavorable soil which the eye affords for the growth of the bacillus combine to help us to fairly good average results. In this connection the famous passage in Osler's "Practice of Medi-

cine" wherein he draws a parallel between tuberculous infection and the "Parable of the Sower" becomes a very interesting contribution to the subject.

The local and non-specific general treatment of these conditions is very important. The inflammatory manifestations call for atropine and hot applications, with such other local measures as have proven helpful. Foreign protein, of which there are many preparations, rest, and the elimination of foci of infection, wherever found, are used as experience dictates. But the main purpose of this paper is to remind you of the occurrence of ocular tuberculosis in people who are not apparently tuberculous, and to call attention to some of its characteristics, as well as its clinical course and termination.

#### DISCUSSION

*Dr. S. Kirkpatrick (Selma):* I shall limit my discussion to the problem of differential diagnosis and not refer to the local signs and symptoms of interest only to the ophthalmologist.

Dr. Ellett has given us a most comprehensive discussion of a timely and important subject. There is a wide variance in the reported incidence of ocular tuberculosis occurring in different localities. This is probably due to the mental bias or training of ophthalmologists and the difficulties attending the diagnosis. The insidious and unobtrusive nature of this disease makes it easily a controversial question, but the extensive clinical training of the essayist entitles him to speak with authority, and he has presented the subject in such a forceful, adequate manner as to leave no doubt in our minds that ocular tuberculosis is as definitely a clinical entity as the tuberculous kidney or other forms of metastatic tuberculous manifestations.

Ophthalmologists have long wrestled with problems of the etiology and differential diagnosis of some forms of ocular lesions involving principally the uveal tract, showing a tendency to chronicity and exacerbations in which all detectible foci of infection had been removed, and with negative Wassermann. This is the class of cases that we are falling back on tuberculosis for an answer, but the diagnosis is not always easy, as pointed out by Dr. Ellett. A positive tuberculin test shows that the body harbors tubercles, but it is not conclusive evidence that the local lesion in the eye is of tuberculous origin, nor does a negative Wassermann preclude the possibility of syphilis. Syphilis is the mocking bird of pathology. It mimics all diseases. Infectious foci are not always easily located and their removal is not constantly attended by a cure of the metastatic or allergic manifestations in other parts of the body.

Dr. Mayer Solis-Cohen and Dr. Friedenwald, in one hundred carefully checked cases, found the offending organisms present at the site of the original focus of infection several months after the removal of the diseased structure.



The contiguity of structure and the intimate anatomic hook-up of the lymphatic and vascular systems of the eye and paranasal sinuses make it difficult to eliminate the latter as a causative factor of intraocular lesions.

A relatively large number of children and most adults give a positive reaction to the tuberculin test and autopsy shows that about 90% of the bodies of all persons dying from other causes show evidence of tuberculous lesions.

The tubercle bacillus is a very toxic organism and its introduction into the body is attended by a state of hypersensitivity which is at first an immunity reaction, but later becomes allergic due to circulating toxins produced by autolysis of the organisms at the site of the primary focus, and this is the cause of frequent exacerbations to which these cases are subject.

Many cases showing a positive reaction to tuberculin will react also to some strains of bacteria by the intracutaneous method, notably the streptococci. This applies particularly to those cases where the ocular lesions show inflammation and congestion. It is my custom to clear up this class of cases with appropriate bacterial antigens or foreign protein. Dr. Ellett has suggested a rational basis for tuberculin therapy; namely, those slow, nonprogressive, chronic types, with a healed or arrested primary focus, and showing a tendency to spontaneous recovery. In the properly selected cases, tuberculin is of value, but because it is a two-edged sword its use had better be left to the physician who has had experience with it. (Ross K. Chiderhose, *Diseases of the Chest*, February 1936.)

The skillful use of the ophthalmoscope is a necessary adjunct in the diagnosis of ocular tuberculosis and its treatment. Probably this is one reason for the lack of interest of the general physician, as noted by Dr. Ellett. Besides, tuberculosis of the eye occurs frequently in the robust and apparently healthy individual and nearly always in the quiet or arrested stage of the primary focus.

In cases of recurrent intraocular hemorrhages and dense vitreous opacities I have found no agent so successful as three units of insulin administered twice a week. It steps up the metabolism to a remarkable degree, stimulates appetite and clears up the vitreous opacities in a most satisfactory manner.

This is an important subject and I trust the author has accomplished his purpose of arousing an increased interest on the part of the general practitioner, because I assure you, we specialists need all the help from you we can possibly get in the management of these tedious and hitherto unsatisfactory cases.

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**Gas Bacillus Infection**—Gas bacillus infection—a veritable sword of Damocles—threatens every victim of a compound fracture, especially if soil has contacted the wound. The old prospectors used to say, "Gold is where you find it," and this applies to gas bacillus infection; we should regard it as omnipresent, and observe all compound wounds accordingly.—*Barnes, Texas State J. Med., May '36.*

## THE USE OF CARDIAC STIMULANTS IN ACUTE INFECTIOUS DISEASES\*

By  
G. R. SMITH, M. D.  
Ozark, Ala.

A discussion of the use of cardiac stimulants would seem to be but a needless review of the action and application of the more commonly employed drugs, such as digitalis, caffeine sodium benzoate, strychnine, camphor and epinephrine, and some of the newer ones as coramine and metrazol. There is more involved, however, since we have all been struck by the utter failure of these drugs in infections with a clinical picture typical of the so-called failing heart, or acute myocarditis, as described in text-books, in a patient whose heart had been normal previously. Pathologists report that, in the majority of these cases, the myocardium presents a degenerative condition which varies little or not at all from the degeneration due to postmortem changes. In other cases, which may terminate in sudden death, there is a circumscribed suppurative inflammation, with the formation of minor abscesses and a more grave albuminous degeneration of the muscle fibers. However, the latter is, fortunately, the exception and not the rule and, in the majority of cases, we are unable to explain the clinical symptoms observed in the course of the illness from the pathology found at postmortem.

Physiologists claim that myocardial degeneration is not the cause of death, even in severe infectious processes, but that a condition, akin to shock, in which there is great capillary dilatation with stagnation of the blood in the dilated vessels is the true cause. This dilatation is produced by the liberation of certain histamine-like substances in the blood stream by the bacteria themselves. Dale and Laidlaw (*J. Physiol.* 52: 355, 1919) demonstrated that histamine produces arteriolar precapillary contraction with capillary dilatation, a condition known as secondary shock. If the capillary dilatation is great enough, the animal bleeds to death in its own vessels.

The volume of blood in circulation is diminished with resultant incomplete filling

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\*Read before a meeting of the Southeastern Division of the Association, Ozark, March 27, 1936.

of the ventricles during diastole. The output of the heart, per beat, depends on Starling's law of the heart, which is, that the force with which the heart muscle contracts during systole varies directly with the volume of the heart at the end of diastole. To maintain the circulation the heart beats faster, the pulse becomes smaller. The first sound at the apex becomes fainter because of the lessened amount of blood. The picture is, apparently, one of acute myocarditis, but is it not also one of secondary shock? The coronary circulation is diminished and the heart dilates just before death from a lack of oxygen.

Monckeberg reports that in certain cases of sudden death following acute infectious diseases, notably diphtheria, in which the lesions found in the contracting system were insufficient to account for the sudden heart failure, there has been found sufficient pathologic destruction of the tissues composing the conducting system to justify the deduction that death was due to the lesions found only in the Purkinje system.

If, then, the pathology found, in the majority of these cases, does not warrant the assumption of an antemortem diagnosis of myocardial degeneration, have we not been misusing cardiac stimulants in trying to stimulate a heart that did not require stimulating? The first thought in using a drug to support the heart is digitalis. Certainly no drug is more useful where there is actual myocardial damage, yet we have seen digitalis used in many cases with no beneficial effect and often with apparent harm. Recently the pendulum has been swinging back toward smaller doses in acute infectious diseases rather than the rapid digitalization method. Whether this is more beneficial or merely less harmful than the larger doses, which decrease a blood volume already too small from capillary dilatation, is an interesting question. If there is no evidence of actual myocardial damage, and no pre-existing heart disease, digitalis is certainly not indicated and may be decidedly harmful if pushed.

The use of cardiac stimulants, then, should be supplanted by the more logical procedure of how best to restore the venous return to the heart or what measures to adopt to increase the blood volume.

Of the latter methods, it would seem that the intravenous administration of isotonic

fluids, such as Ringer's solution, or of dextrose would be a simple and ideal procedure. But, due to the increased capillary permeability present in these cases, the fluid is soon lost in the tissues. Dextrose does not pass out as rapidly as sodium chloride solutions, especially in 50% solution, and is of value in severe collapse.

Not quite so simple but far more efficacious to increase the blood volume and prevent transudation of fluid into the tissues is blood transfusion. It increases the circulating blood volume and gives support to the heart, while the proteins keep up the osmotic pressure within the capillaries and prevent the loss of fluid. However, blood transfusion is not so simple that it can readily be adapted to many of these cases in general practice.

The use of digitalis, which has so long been taught as the sheet-anchor in these cases, has already been discussed. Camphor, in the experience of the writer, has never proven of any value. Caffeine sodium benzoate increases the force of the heart beat for a very short time. Its use is limited to an emergency. Metrazol and coramine, like camphor, have not proven themselves of any value in acute infections.

Epinephrine is very useful in some cases of sudden collapse. It is a powerful capillary constrictor but the effect is too transient to make it dependable. It should be given in 0.5 to 1 cc. doses at frequent intervals for several doses. Pitressin has the same effect, although it acts directly on the heart muscle, and has a more prolonged action than epinephrine.

Strychnine has the effect of lessening capillary permeability and increasing the blood volume. It should be given in larger doses than generally recommended and is much safer than digitalis in general use.

Oxygen is useful to relieve cyanosis and lowers temperature but is of doubtful value otherwise.

#### CONCLUSIONS

A diagnosis of heart failure, per se, or acute myocarditis as the cause of death in acute infectious diseases is not warranted on the pathologic findings.

Blood transfusions are of the greatest value when practical.

Digitalis has been misused to a large extent in these cases. Its use should not be



pushed to the point of actual harmful effect.

The ideal drug has not been found but strychnine, epinephrine and pitressin are the most useful.

Oxygen is of doubtful value except for relief of cyanosis.

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## ENURESIS IN CHILDREN\*

### ITS CAUSE AND TREATMENT

By

JOHN W. BOGGESS, JR., M. D.  
Guntersville, Ala.

Bed-wetting (enuresis) in children is a condition that is very annoying to the child's parents and a source of discomfort and unnecessary exposure to the child. It is a condition frequently met with in almost every branch of medicine and it behooves us to give some special consideration to it, especially its correction.

In some of these children may be found the presence of reflex irritation, phimosis, intestinal parasites, adenoids, hypertrophied tonsils, etc., which, of course, should be corrected when found. However, in the vast majority of cases these abnormalities are entirely lacking or at least the condition persists after correction of such abnormalities. The parents usually complain that the child's sleep is troubled; in his sleep the child talks, cries out, grinds his teeth, and has nightmares. Usually there are other signs of nervous weakness, such as exhaustion at the end of the school day. The child often screams, is anxious, grows tired easily, has no appetite, complains of cold, flushes and grows pale very easily, and has a tendency to vomit. In this type patient, if the blood calcium and phosphorus estimations are determined, the calcium is usually found deficient (7.5 to 8.5 mgms. per 100 cc.), and the phosphorus increased (4.2 to 5.0 mgs. per 100 cc.). Correction of the imbalance, when present, will cure the majority of the cases.

It has been some source of worry to me trying to definitely determine whether the enuresis in these cases is due to the decrease in calcium or increase in phosphorus, resulting in increased output of urea,

irritation, etc. However, as far as treatment is concerned, it is immaterial as correction of one condition seems to correct the other.

### TREATMENT

*Diet:* The diet should be high in calcium; boiled sweet milk (boiled 2 minutes), or buttermilk, cheese, applesauce sweetened with molasses, whites of eggs (coddled), grapefruit and lemon juice sweetened with molasses, tomato juice, carrots, cauliflower, green vegetables (all varieties), etc.

*Drugs:* Calcium and vitamin D are the principal drugs. Occasionally it is advisable to add 1/20 gr. parathyroid extract for a few days until symptoms are controlled, then omit—the dosage depending on the age of the child.

### CONCLUSIONS

1. Enuresis (bed-wetting) in children, in the vast majority of my cases, has been found to be due to a disturbance in the normal calcium and phosphorus ratio in the blood.

2. Whether the condition is caused by the decrease in calcium or increase in phosphorus does not seem to materially matter as correction of one condition corrects the other.

3. A diet high in calcium will eventually correct the majority of cases of enuresis in children. However, calcium and vitamin D medication is advised in the beginning to hasten recovery, and in some cases it is advisable to add small doses of parathyroid extract (1/20 gr. t. i. d.) to increase calcium metabolism.

4. Children treated for enuresis by calcium therapy usually show marked improvement in other respects—nervousness, appetite, etc.

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\*Read before a meeting of the Northeastern Division of the Association, Anniston, March 24, 1936.

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**Heart Disease in Pregnancy**—The first consideration in the management of heart disease and pregnancy is accurate diagnosis. Symptoms of cardiac insufficiency may occur during pregnancy, even when the heart is not the seat of organic disease, and many of the signs of organic heart disease may be mimicked by pregnancy. On the other hand, some of the important signs of organic heart disease may be lacking even when this condition is present.—*Jensen, South. M. J., June '36.*

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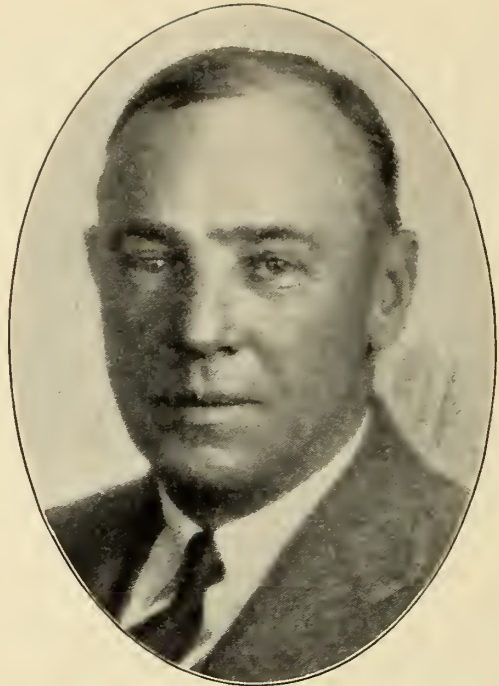
June 1936

#### SOME TRENDS IN THE THERAPY OF PNEUMONIA

"The literature on the treatment of pneumonia is so extensive that it is with some hesitation that one approaches the task of attempting to cover, even approximately, the field. Cole gives us an intimation of one cause of what sometimes appears as confusion when he states that 'pneumonia is a whole group of diseases, each differing essentially from the other.' In any event we know that our mortality is still too high, and that we have not made the favorable progress in the treatment of the pneumonias that has characterized our efforts in the management of most other diseases."

The above is the opening paragraph of a recent article by Bethea<sup>1</sup> in which he discusses some of the recent tendencies in the therapy of pneumonia. The author reminds us that the mortality is higher in hospital groups than in private practice in the home and that, irrespective of treatment, the death rate progressively increases with the advancing years of the patient. He believes that present-day writers lay insufficient stress upon isolation, but he is pleased to note that "emphasis is being laid on the advisability of not disturbing pneumonia patients more than is necessary . . ." And

1. Bethea, Oscar W : Some Modern Trends in the Therapy of Pneumonia, International Med. Digest 28: 178 (March) 1936.



LLOYD NOLAND

Fairfield

President of the Association  
1936-1937

he further observes that "in every department of medicine purgation is being employed less than in past years, and it certainly appears reasonable that in pneumonia the avoidance of the disturbance and exhaustion incident to purgation would seem advisable."

Bethea feels that the best diet in the pneumonias is still a moot question, but he is inclined to favor a high carbohydrate, low total diet. He says that glucose administered intravenously in pneumonia has fallen largely into disuse and he recalls many disturbing results from this form of treatment during the World War. The author is intensely interested in specific serums but holds that "there are several factors that tend to militate against the general use of serum therapy." In regard to oxygen he says that "there is no doubt that the use of this agent has recently been put upon a more efficient basis." He regards the modern oxygen tent as being the best apparatus now available but warns that its use should not be undertaken by any one without proper preparation for it. The au-



thor uses oxygen in about 10 per cent of his cases.

Bethea informs us that artificial pneumothorax has had many advocates of late but he has not employed this measure in pneumonia. And he appears to have little faith in quinine, optochin and the various other chemicals which have been advocated from time to time. He feels that in most instances the symptoms can be satisfactorily controlled without morphine, and earnestly advises such a course when possible. Of digitalis, he says that it is used much less today in pneumonia than it was a decade ago and he decries the routine digitalis of the World War days. He believes that digitalis should be used only in the presence of fibrillation, flutter and failing compensation.

The commendable and world-wide quest for specific and effective means of combating pneumonia will go on and our therapeutic armamentarium will be added to from time to time. It is even possible that Osler's famous dictum—as true now as it was forty years ago—may be invalidated. Meanwhile it behooves physicians to keep informed as to what progress is being made and, above all, to keep their feet on the ground while treating their patients with pneumonia. And the practitioners, especially those away from great medical centers, will do well to heed the sound advice contained in Bethea's closing paragraph:

"We find a few voices raised in favor of treating the patient and not the disease just as is done in typhoid fever. Cornwall has long been an enthusiastic advocate of this plan of management and his statistics at least compare favorably with those published from any other source. Ryle feels that the disease runs a natural course and is little affected by therapy. I have felt that specific measures under favorable conditions are available to so small a percentage of cases, that it is rather to be regretted that so little attention has been paid in literature to the care of that great majority of patients who must be treated without the possible benefit of such therapy. I have become more and more convinced that infinite attention to the details of general care and a policy of the employment of the least possible medication or other interference is at least worthy of further consideration."

#### FULL-TIME PEDIATRICIAN FOR ALABAMA

For several years the State Board of Censors has appreciated both the need and value of refresher courses in certain branches of medicine for our physicians located in the more rural areas where facilities for acquiring the more modern practices were extremely limited. The Association has approved the setting aside of a certain small amount of its revenues to be expended annually in the promotion of this type of work. During the past three years, with the aid of the Children's Bureau in Washington, courses in obstetrics and pediatrics have been given throughout the State and the response on the part of the profession has been so gratifying that the past President of the Association, Dr. C. A. Thigpen, in his recent message, urged a continuance and a broadening, wherever possible, of this much needed service. At our last meeting in Montgomery, and upon the President's and the Board's recommendation, the Association created a new standing committee to further develop and foster programs of this nature. One of the most urgent immediate needs seems to lie in the field of pediatrics and child health. In arranging a broad and sound program for the utilisation of funds made available through the Children's Bureau, it was felt that no better investment could be made than that of providing a full-time, well trained pediatrician for the Health Department staff, whose prime function will be to render to County Medical Societies and physicians generally throughout the State, but more particularly in the rural areas, a consultative service in their difficult cases, as well as bringing to them, through lectures and clinics, the newer things in the important field of pediatrics. Such a service, if properly utilised and rendered, should prove of great value to the practising physician where a pediatrician is not readily accessible. To conduct this work over the State the services of Dr. Joseph J. Repa, a thoroughly trained pediatrician, have been procured, and it is the hope of the Health Department that County Medical Societies, working through their County Health Officers, will request that schedules be arranged for having the State Pediatrician meet with them. These requests should be directed to Dr. B. F. Austin, Director of the Bureau of Hygiene and Nurs-

ing of the State Department of Health, Montgomery, who will attempt to arrange satisfactory itineraries for Dr. Repa. For this new venture to be productive of most good will require real co-operation and interest on the part of the practising physicians, whom it is primarily designed to serve. On behalf of the Association, therefore, the Board and the State Health Officer bespeak the aid and support of the entire profession in this new and important field of endeavour.

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#### THE KANSAS CITY MEETING OF THE AMERICAN MEDICAL ASSOCIATION

Crisp and catchy slogans are the order of the day. "The Heart of America"—the Kansas City slogan—seems both to Missourians and Kansans so eminently fitting as to justify its continuous repetition to the stranger within its gates; and he, in turn, after a few days sojourn in their midst, becomes so thoroughly inoculated with their "virus" of cordiality and hospitality that he, too, regretfully takes his departure, lisping, as he goes, "farewell Kansas City, Heart of America." An imaginary boundary line separates the two Kansas City cities of Missouri and Kansas, which, on this occasion, was completely erased by the medical profession of the two states in their untiring efforts to play the part of hosts to the largest medical organisation in the world. While the hotel facilities seemed somewhat overtaxed by such a large influx of medicos, this defect was amply compensated by the splendid new municipal auditorium and the cordial greetings to all. Because of the geographical location of Kansas City, the attendance upon this meeting was one of the largest—possibly the largest—in the history of this organisation. Each year the exhibits, both scientific and commercial are becoming more and more educative and interesting. Especially is this true of the scientific exhibits. Throughout the entire day, lectures, practical demonstrations and films are presented by medical authorities; particularly impressive and interesting were those on diabetes, fractures, traffic accidents, orthopedic surgery and pathology. In these exhibits every branch of scientific medicine is covered, and one could spend, to advantage,

his entire time studying these exhibits. The absence from this meeting of the President-Elect, Dr. J. Tate Mason, of Seattle, because of serious illness, was keenly felt by all, especially at the opening session on Tuesday evening when he was installed as President *in absentia*. His presidential address, devoted to the modern trends in surgery, was presented by Vice-President Lynch, of South Carolina, and proved to be a scholarly and optimistic presentation of the possibilities inherent in this field of medical science. The House of Delegates laboured earnestly and through long hours over many important matters brought to its attention by the officers of the Association and through resolutions introduced on the floor of the House. These matters will appear in the succeeding issues of the Journal of the American Medical Association and should be carefully read by all members interested in the many broad, sociologic problems now confronting the profession.

Dr. J. H. J. Upham, of Ohio, for years a faithful worker in the Association and a former member and Chairman of the Board of Trustees, was chosen President-Elect. Dr. Gordon Heyd, of New York, was chosen as Vice-President.

Atlantic City was selected as the place of meeting in 1937.

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**The Doctor and the Public**—It should be realized in the clearest manner that the general practitioner is the backbone of the medical profession. The most colorful picture is that of the family doctor, the type who renders individual service, and not the man who is compelled to make a trade of it handling as many as fifty patients a day in a hasty way through some manager's office thus leaving the doctor in an exhausted state and unable to give personal consideration to each patient. Experience abroad proves that an army of lay workers exceeds the number of physicians employed, these being government employees who often direct the activities of the medical men in the field. However, high professional standards cannot survive the blight of bureaucratic control and politics. The highest type of manhood rebels at direction by political chicanery. Such changes as are needed ought to be worked out by the profession itself instead of being revolutionized by lay organizers.—*Gray, New Orleans M. & S. J., June '36.*



## THE ASSOCIATION FORUM

(Under this heading will appear, from time to time, as occasion may arise, contributions having a direct bearing on the general policies, functions and interests of the Association. Articles submitted should be of an impersonal nature.)

### ORDINANCE GOVERNING CONTRACT PRACTICE

(Amended to May 1, 1936)

Foreword: Believing there are many members of the Association who would want a copy of the Contract Practice Ordinance now in effect, the Secretary has correlated all amendments with the original as adopted in 1926 and is reproducing it herewith.

ADOPTED 1926. TRANSACTIONS 1926, P. 126

*Be it ordained by the Medical Association of the State of Alabama:*

Section 1. That a physician, without violating the ethics of the profession, may contract to render the following service, either for a stated salary or on a fee basis, which shall be commensurate with the professional service rendered and expressed in terms as near as possible of the medical fee bill, which prevails in the locality in which the contract obtains.

ADOPTED 1926. TRANSACTIONS 1926, P. 126

Subsection 1. To perform surgical service, as far as accidents are concerned, for the unofficial employees of railways, mining, manufacturing, commercial or public service company, corporation, establishment or organization, or for any person for whom such corporation may be held responsible by law.

ADOPTED 1926. TRANSACTIONS 1926, P. 126

\*Subsection 2. To perform medical and surgical service for the unofficial employees of mining or manufacturing companies, and the dependent members of their families, but not for the salaried officials,

\*Note: The State Board of Censors, at the 1928 session of the Association, construed and interpreted Subsection 2 of Section 1 as follows: "That the term 'unofficial employee' means any employee, who is not financially able to obtain efficient medical and surgical attention in times of sickness and distress. The employee's income under this interpretation will vary in different parts of the State according to the economics and living conditions in the community in which the particular contract is entered. It is assumed that each county medical society shall have authority to determine the income limit for the contracts within its boundaries, as provided for under the terms of this interpretation. For instance, \$150 per month

nor for the families of such salaried officials.

ADOPTED 1926. TRANSACTIONS 1926, P. 126

Subsection 3. To perform medical and surgical service for the pupils attending educational institutions away from their homes, without including in such contract the president, professors, or teachers of such institutions or their families.

ADOPTED 1926. TRANSACTIONS 1926, P. 126

Subsection 4. To perform medical and surgical service for the inmates of charity hospitals and prisons without including in such contract salaried officials and managers of such institutions or their families.

ADOPTED 1926. TRANSACTIONS 1926, P. 126

Subsection 5. To practice in a hospital maintained by a railroad, mining, or manufacturing company, establishment or corporation or any hospital partially maintained by a railroad, mining, manufacturing company or corporation for the care of their sick and wounded employees, provided said hospital does not enter competitively upon the practice of medicine.

ADOPTED 1926. TRANSACTIONS 1926, P. 126

Subsection 6. To practice in a hospital with which contracts are made by a railway, mining, manufacturing, commercial, or public service company, corporation or establishment for the care of their sick and wounded employees, but not for the salaried officials of such companies and their families, provided such hospital maintains in such contracts a minimum rate charge commensurate with the accepted standards of cost for hospital service.

ADOPTED 1933. TRANSACTIONS 1933, P. 13

Subsection 7. To perform surgical service, in so far as accidents are concerned, for employees of a corporation that carries group accident insurance for its employees.

in some communities would be equitable, \$200 per month in other communities would be equitable, but in no case, and under no circumstances, and in no locality, shall the income of the employee claiming benefits under this ordinance exceed, from all his combined sources of revenue, \$250 per month or \$3,000 per annum." This interpretation was adopted by the Association.

ADOPTED 1933. TRANSACTIONS 1933, P. 13

Subsection 8. To serve as examiner, or medical director, or medical referee for an insurance company that is engaged in the business of life, health or accident insurance.

ADOPTED 1933. TRANSACTIONS 1933, P. 13

Subsection 9. To perform service, either on a salary or fee basis in examining individuals who are ill, or who have received injuries, and who carry individual health or accident policies in an insurance, accident or casualty company, and of reporting thereon.

*Section 2.* That a physician shall not, without violating the ethics of the profession, contract to render the following service:

ADOPTED 1926. TRANSACTIONS 1926, P. 127

Subsection 1. To perform medical or surgical service for private individuals, groups of individuals, lists of individuals, or for any society, lodge, club, or in what is commonly denominated a list hospital, or a hospital which secures its patients by unfair competition or unfair methods.

ADOPTED 1935. TRANSACTIONS 1935, P. 21

Subsection 2. To perform medical or surgical service in a hospital or clinic with hospital service which does not conform to the ordinances of this Association now regulating group hospital insurance or which may hereafter be adopted by this Association.

ADOPTED 1933. TRANSACTIONS 1933, P. 13

Subsection 3. To perform medical and surgical services in a hospital or clinic, that for a weekly, monthly, quarterly or annual stipend or stipend collected at other intervals, agrees to provide hospital service for individuals, or groups of individuals, except in a hospital with which contracts are made by a railway, mining, manufacturing, or public service company, for the care of their sick or wounded employees.

ADOPTED 1933. TRANSACTIONS 1933, P. 13

*Section 3.* That a physician shall not, without violating the ethics of the profession, contract with, or be employed by an insurance, accident or casualty company to render the following service:

ADOPTED 1933. TRANSACTIONS 1933, P. 13

Subsection 1. To perform medical and surgical services for individuals, or the families of individuals, who carry health or accident policies in insurance, accident or casualty companies.

ADOPTED 1933. TRANSACTIONS 1933, P. 13

Subsection 2. To perform medical and surgical services for groups of policy holders in insurance, accident or casualty companies, except for groups insured by corporations which are responsible for the accidental injuries to their employees according to the compensation laws of the State of Alabama.

ADOPTED 1926. TRANSACTIONS 1926, P. 127

*Section 4.* That all contracts allowed by this ordinance shall be made with presidents, superintendents, or managers as far as railway, mining, manufacturing, industrial companies or enterprises are concerned; with boards of trustees, so far as colleges and schools are concerned, and in their absence, with presidents, principals or chief teachers of such schools and colleges; and with county and municipal authorities as far as charity hospitals, jails and other such institutions are concerned. Compensation for medical service paid the doctor shall be paid direct from the treasury of the company or institution concerned.

ADOPTED 1935. TRANSACTIONS 1935, P. 21

*Section 5.* That any plan for providing hospital services on the insurance basis which deals exclusively and only with the hospitalization of the sick will be considered ethical, provided that the contract entered into between the institution and the patient shall be uniform, in every phase, throughout the State, and shall have the approval of the County Board of Censors and of the State Board of Censors.

ADOPTED 1926. TRANSACTIONS 1926, P. 123

*Section 6.* That all underbidding by physicians or hospitals on contract permitted by this ordinance shall be regarded as unethical and treated accordingly.

ADOPTED 1926. TRANSACTIONS 1926, P. 123

*Section 7.* That all contracts made by members of this Association under this or-



dinance shall be open to inspection by the county medical society having jurisdiction through its legally constituted representatives.

ADOPTED 1926. TRANSACTIONS 1926, P. 123

*Section 8.* That any and every part of this ordinance, on which there is a difference of opinion, so far as interpretation is concerned, shall be interpreted in the light of the opinions expressed in the conclusions\* on which this ordinance is based.

\*Note: The conclusions referred to in Section 8, *supra*, are as follows: "First. While viewing with distrust contracts of any and every nature, because of their demoralizing effect upon the medical profession and their tendency to break down the high standards of medical ethics, the State Medical Association in 1890 entered into a quasi contract with the industries of the State to permit its members to do contract practice of a prescribed nature without endangering their ethical standing in the Association. Second. This departure from the established usages and traditions of medical ethics was agreed to so that changing conditions in the social order might be met and that we might contribute our share of service in the development of the economic resources of the State. Industry was faced by an impossible labor situation, and the agreement contemplated placing at the disposal of industry the best medical talent of the State, and that in return therefor, industry should pay its medical and health advisers a reasonable compensation for their service. Third. The present development of the industrial resources of the State of Alabama has been made possible through the advice of the doctor in industry, just as the building of the Panama Canal was made possible through the advice of General Gorgas and his associates. Fourth. It would be a breach of faith on the part of the State Medical Association after thirty-five years of constructive work under this quasi contract, for the medical association to abrogate it and ask of industry that it start all over again to build up a new system of health contract, medical and surgical reconstruction. Fifth. The State Medical Association went into this agreement with the industrial corporations of the State with the tacit understanding that industry would do nothing that would have a tendency to lower the standards of excellence of service or bring reproach upon the traditions of the profession. Our recent investigations have disclosed the fact that bids have been called for from the medical profession by industry. Underbidding for contracts has been engaged in by members of the profession. Contracts have been let to the lowest bidder by industrial corporations without regard to the character or efficiency of the service rendered. The board is of the opinion that this is a breach of faith with the State Medical Association. Both the letter and the spirit of the quasi contract entered into in 1890 are violated. Sixth. That a contract with a doctor, the terms of which require him to furnish medicine, drugs and

hospital care is a violation of the spirit, if not the letter, of the contract, because operatives cannot possibly receive proper service under this type of contract, and in addition thereto, such contracts present a strong temptation to the doctor to neglect his patient in the interest of the support of his family. Seventh. This calling for bids by industrial corporations has brought about an intolerable condition in the industrial sections of the State, which the State Medical Association feels called on to rebuke. Out of these abuses have grown lodge practice, list practice, the list hospital and a number of other unethical and fraudulent practices in the industrial centers of the State, which have resulted in inefficient medical, surgical and hospital service to the sick. Eighth. Contracts with hospitals for the care of employees is regarded not only as a legitimate function of industry but the practice should be commended. On the other hand, all such contracts should be sufficiently liberal to insure proper care of the sick, leaving no temptations to the hospitals to sacrifice efficiency in order to prevent financial loss. Contracts for hospital service are in evidence, the terms of which appear to be too low to provide proper care of the sick, and at the same time pay the legitimate expenses of hospital service. It is a matter of common knowledge that it costs approximately \$3.00 per day, per patient, to provide proper hospital care for the sick. It is, therefore, obvious that when a rate materially lower than this is charged, other sources of revenue must be provided for the hospital, else bankruptcy will ensue. Contracts may be expressed in terms different than here indicated, but the financial consideration per day, per patient, should not fall materially below this minimum schedule rate, lest suspicion of fraud shall attach. Ninth. The board is of the opinion that a hospital owned and maintained by a mining, manufacturing or railroad corporation should confine its service to the officers and employees of that company and the dependent members of their families. Tenth. The board begs further to point out the limitations of the situation by which we are confronted. Ordinances have been passed from time to time by the Association, which, if obeyed or enforced, would have effectively controlled contract practice. We have authority only to promulgate broad principles of ethics which point out proper standards for the government of our actions. When this has been done, we must leave it to the conscience of the individual doctor to obey and the calm and unprejudiced judgment of the county medical societies to enforce them." Transactions, 1926, pp. 123 to 125 inc.

Immediately following the ordinance on contract practice, the following note appears: "The above ordinance, based upon the foregoing conclusions, has for its primary purpose the protection of the people of the Commonwealth. Unless the standards of the ethics of the medical profession can be maintained upon the same exalted plane prevailing in other years the people at large must be the sufferers. Medical ethics is intended primarily to protect the patient from unworthy practices, ignorance and fraud, and as such should receive the endorsement of all right thinking people everywhere." Transactions, 1926, p. 128.

## DEPARTMENT OF PUBLIC HEALTH

### BUREAU OF LABORATORIES

James G. McAlpine, Ph. D., Director

#### FOOD POISONING\*

##### V. OUTBREAK OF FOOD POISONING IN BIRMINGHAM INVOLVING ONE HUNDRED TWENTY-TWO CASES —A PRELIMINARY REPORT

Outbreaks of bacteriological food poisoning are of interest because of the dramatic suddenness of their occurrence and the large number of persons frequently involved. Excepting botulism, fatalities are rare and the victim, while desperately ill, usually recovers in a short time.

Two difficulties are usually encountered in a solution of such outbreaks. First, good detective work is required, and we are not all good detectives; second, the food under suspicion is usually either entirely consumed, or the remaining bits are grossly contaminated through handling by numerous individuals. In the recent epidemic, however, all clues led to the incrimination of a single article of food, and sufficient quantities, fortunately, were recovered early in the investigation so that satisfactory bacteriologic examinations were possible. All individuals, however, had practically recovered by the time the outbreak became known to us.

On the morning of March 27th a physician reported to the Health Department that on the previous afternoon he had attended twelve Ensley High School students, all sick with food poisoning after eating cream puffs for lunch on the 26th. The severity of illness varied though all had the same general symptoms.

Investigation disclosed that the school lunch room was clean, and its operations met the sanitary requirements of the Health Department. The lunch room personnel had not recently changed, none had been ill, and bacteriologic examinations (completed 6 months previously) had not disclosed carriers of intestinal pathogens. For several months the lunch room had served cream puffs purchased from the same bakery. On the day of the outbreak 18 dozen had been purchased. Six hundred

ninety-three students were fed, 165 ate cream puffs and 94 or 57% of these were taken ill. The 528 students who did not eat cream puffs were not sick. Six additional cases developed from cream puffs taken home by lunch room supervisors and eaten by individuals at the evening meal. In all, 122 cases were discovered and 28 of these had no connection with the school lunch room.

Detailed clinical histories of these cases were obtained from both the victims and their attending physicians. They may be summarized as follows:

Within 2-3 hours after eating there was first noticed a feeling of nausea. Severe abdominal cramps developed, and were followed by severe vomiting. Vomiting in many cases persisted continuously for 1-6 hours, and the vomitus at times contained blood. Diarrhea of 1-7 liquid stools was present in 73% of all cases. Blood, not infrequently, was present in the stool. In the severe cases the temperature was subnormal, there were cold sweats, pallor was marked, and prostration severe. While the acute symptoms lasted for only 2-6 hours complete recovery because of prostration was delayed in many for 2-3 days. Three cases were hospitalized. There were no fatalities.

Inspection of the bakery showed it to be filthy. Not only this, but certain conditions which prevailed were disgusting if not positively revolting. Three grossly insanitary toilets were repugnant and obnoxious. The building was not fly-proof and flies were embracing these toilets and the bakery products as a regular rendezvous. There were no proper washing facilities for the 35 employees, and no hot running water on the premises. Clothing worn by the employees was filthy. Wash water for utensils had the consistency of pea soup. The greater part of the large and small equipment was inadequate, improvised, covered with filth, and in such a state of disrepair as to render cleansing impossible even under the best of conditions. Raw materials were stored in open barrels and entirely unprotected from dust, rats, and insects. The finished bakery products were

\*Fifth in a series—this one contributed by J. D. Dowling, M. D., County Health Officer, Birmingham, Alabama.



subject to promiscuous handling and before being wrapped were often cooled in an open garage adjacent to the insanitary toilets. There was no history of recent illness, nor of boils or abscesses, among the personnel. The condition of this bakery was not surprising when we consider that for several years there has been no routine inspection of food establishments by the Health Department because of financial restrictions. Other bakeries, inspected at a later date, were even more filthy—if such a thing is possible.

The cream puffs in question were all of one batch. The cream filling (approximately 12 gallons) was heated in a copper kettle by steam for six minutes and then allowed to cool for 2½ hours before being placed in the shells. The heating temperature was indefinite and it is questionable whether the cream filling was rendered reasonably sterile. The time and conditions allowed for cooling were probably ideal for bacterial multiplication.

Nineteen cream puffs were recovered. On physical examination all appeared to be fresh, and there was no evidence to indicate that they might not be safe for human consumption. Direct microscopic examination of the cream filling showed large numbers of staphylococci and spore-forming bacteria. Bacterial counts on four specimens showed a bacterial content of 50 to 70 million per gram; 99% of these organisms were *Staphylococcus aureus*. From all 19 specimens *Staphylococcus aureus* was found in abundance, and, in all, *B. coli communis* was also present. No bacteria of the paratyphoid group were isolated, and no carriers of these pathogens were found among the bakery personnel.

Approximately 18 outbreaks of food poisoning due to staphylococci have been reported in the literature. Due to the wide distribution of this organism in nature and due also to the inadequate means at present available to distinguish between the varieties of this organism, the mere presence of staphylococci in a food by no means incriminates it as the cause of food poisoning. In order to establish the staphylococcus as the cause of food poisoning it is necessary to prove the ability of the organism isolated to elaborate a toxin which is capable of producing symptoms of food poisoning when fed to man or monkey. For this purpose

we used the members of our laboratory staff, inasmuch as monkeys were not available.

Twenty cc. of a 24-hour broth filtrate of the staphylococci from two different cream puffs proved mildly toxic when fed to two individuals. One experienced mild headache and abdominal cramps, the other abdominal cramps and six liquid stools. The onset for each was three hours after feeding.

Cultures from each of four cream puffs were then grown in broth in an atmosphere of 10% carbon dioxide and 90% air for 48 hours, and then filtered through a Seitz filter. Ten cc. of these 48-hour broth filtrates were fed to four individuals while a fifth individual took 6 cc. of the broth filtrate from all four cultures, a total of 24 cc. Three individuals were not affected. The one taking the 24 cc. mixed broth filtrate was nauseated after 2½ hours, vomited 5 times in the course of one hour, his temperature dropped to 97.2 and pulse increased from 80 to 112. The total white cell count rose to 15,000, blood pressure remained normal, and there was no diarrhea. Recovery was complete in four hours.

A second individual who took 10 cc. of broth filtrate (culture C3) was desperately ill for 3 hours. Nausea and abdominal cramps developed 2 hours 45 minutes after drinking the filtrate, vomiting was most severe (5 times in the first hour). There were 4 liquid stools, some containing blood. Pallor was marked, temperature fell to 96 and pulse rose to 130. Blood pressure fell from 120/80 to 60/40, the white cell count rose to 21,400. Headache was mild at the onset and of short duration, there were cold sweats, and prostration was severe. The acute symptoms passed in four hours but weakness persisted for two days.

The findings in these two experimental cases follow those of the mild and severe cases of food poisoning, and, we believe, definitely establish the staphylococcus as the cause of this outbreak. Further comment should probably be withheld until we have studied all 19 cultures from the 19 cream puffs as well as cultures of staphylococci isolated in large numbers from the throats of one of the bakery personnel, the feces of one patient, and from parts of the machinery used in the bakery.

The opportunities for contamination of

the bakery products were so numerous it appears highly improbable that the source of the infection can ever be determined. With such grossly insanitary conditions generally prevalent in food establishments of this locality one wonders why outbreaks of bacteriological food poisoning are not a daily occurrence.

The answer, of course, is that the City of Birmingham like many other American cities is largely depending upon the element of luck in the important problem of safeguarding the public health. In the mad economic scramble during the depression, cuts in appropriations were made recklessly rather than wisely, and, unfortunately, the Department of Health has been one of the chief victims of such a penny wise and pound foolish public policy.

Probably the recent comparatively minor outbreak of food poisoning may bestir Birmingham to action. On the other hand, possibly nothing less than an explosive outbreak of a large food-borne epidemic will, in time, duly arouse public opinion. At any rate the Board of Health has no alternative but to wait and see, hoping for the best but with dubious misgivings.

## BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

### ASCARIS LUMBRICOIDES

*Foreword:* As a result of an intestinal parasite survey in thirty-four counties by the State Health Department, it has been shown that infestation with *Ascaris lumbricoides* is much heavier in some sections than others. Inasmuch as these worms sometimes are the responsible factor in causing death, the following article was thought appropriate at this time.

#### DISTRIBUTION

*Ascaris lumbricoides*, round worms, or stomach worms, are very cosmopolitan in their distribution. In fact they are the most common worms found except *Enterobius vermicularis*, or pin worms. Foci of heavy infestation are found in the Appalachian Mountain Area.

#### DESCRIPTION

The male ascaris measures 6-8 inches in length and the female 10-16 inches. Males can be identified macroscopically by their sharply hooked tail. Each female ascaris

lays about 200,000 eggs per day. Their productive life is about 135 days.

#### LIFE CYCLE

The adult stage is found in the upper part of the small intestine. Since these worms have no organs of attachment they lie free in the intestinal lumen. The eggs of *Ascaris lumbricoides* are large and rough coated. They are unsegmented when they leave the body of the host. Under favorable conditions an infective embryo is developed inside the egg in 10 days to two weeks. Under natural conditions the embryos may develop in water, soil or wherever the pollution is spread. These eggs are very resistant to drying, heat or cold.

Infestation with ascaris worms results from ingesting eggs containing fully developed embryos with food, water or by the accidental transfer to the mouth of soil containing eggs. They hatch in the small intestine. The newly hatched larvae immediately burrow into the intestinal wall and enter the lymphatic vessels or the venules. If the larvae enter the lymphatics they are carried to the mesenteric lymph nodes. From there they reach the circulation either by entering the blood capillaries or the portal circulation, or pass into the thoracic duct and from there to the right side of the heart. If the portal circulation is entered the larvae are carried to the liver and from there to the right side of the heart. From the heart they are pumped in the blood to the lungs where they pierce the alveoli. They are coughed up, swallowed and reach the small intestine. This journey through the host's tissues takes about ten days. It takes 6-8 weeks from ingestion until mature worms are developed in the small intestine. The ascaris worms of the pig will not develop into adult worms in man and vice versa. The pig ascaris larvae go as far as the lungs in man and there they die.

#### PATHOGENESIS

The larvae breaking through the capillaries into the alveoli in the lungs cause small hemorrhages. If the number breaking through should be large, inflammation may be so severe that extensive pneumonia may occur. Large numbers of adult worms in the intestines may cause intestinal obstruction by mechanical occlusion. Since



adult ascarids have a tendency to wander, especially during febrile disturbances, or following the administration of chloroform, ether or carbon tetrachloride, it is highly essential to rid the body of the infestation. They may wander up or down the digestive tract, appearing at the buccal, anal, auditory or nasal openings. They may enter the bile passages and wander to the liver. They may invade the genito-urinary tract or pierce the intestinal wall and get into the peritoneal cavity with disastrous results. Ascarids often give off substances which cause symptoms of intoxication. Fugie, in 1917, separated a very toxic substance from the body fluid of ascarids which produced symptoms and anatomic changes quite similar to anaphylactic shock. Many individuals are quite sensitive to contact with ascaris, especially with the body fluid. The symptoms of sensitivity are irritation of the eyes, nose and throat, edema of the eyes, sneezing, urticaria, lassitude and even prostration. The susceptibility to the toxins from this worm is quite common among biologists who have been exposed to contact with the parasite. It may occasionally be observed among students during laboratory studies on these parasites.

#### TREATMENT

The drug of choice is hexylresorcinol, using 0.1 gram per year of age, with 1 gram as the adult maximum dose. The drug, like other anthelmintics, is given on an empty stomach and no food is given for at least four hours. Water may be taken freely, but alcohol is contraindicated. In twenty-four hours a saline purge is given to remove the dead worms. The drug is quite effective, removing 75-100% of worms in one treatment.

#### PREVENTION

This is accomplished by sanitation and cleanliness. It has been found that the areas of heaviest infestation is where doorway pollution with feces is common.

W. H. Y. S.

#### THE VALUE OF THE WASSERMANN AND FLOCCULATION TESTS

Blood serologic tests for syphilis are valuable aids in diagnosing this disease, but these tests ought not to be considered infallible. The interpretation and value of

the report depend on many circumstances. One positive serologic test without any other sign or symptom of the disease should not bias the physician's diagnosis in favor of syphilis. False positives have been known to occur during a number of diseases. Similarly, a negative report in a patient having clinical syphilis should not be considered to rule out syphilis. Repetition of the blood serologic tests is often necessary before a positive diagnosis can be established. In a patient with a positive Wassermann and negative clinical signs the blood tests ought to be repeated at least four times. Three out of four positives would unquestionably be in favor of the syphilis diagnosis. By repeating the tests in questionable cases the false positives and negatives will be ruled out.

The serum tests are valuable in cases of primary syphilis in showing how far the disease has advanced. It has been proven that patients whose treatment is begun in the sero-negative primary stage have an 18% better chance of ultimate arrest of their infection than in those whose treatment is delayed until the sero-positive primary stage.

These tests are also of value in deciding the immediate effect of treatment and in determining the question of arrest of the infection. The tests alone should not be the sole factor in judging the effect of treatment, but they should be accompanied by clinical signs for accurate determinations.

#### BUREAU OF VITAL STATISTICS

Leonard V. Phelps, Director

#### RECENT LEGISLATION

Those who are interested in the vital statistics of Alabama will be glad to know of the passage of two bills in the special 1936 session of the Legislature.

The first concerns the payment of local registrars of vital statistics and priority of the claims of local registrars against the county. It reads as follows:

#### AN ACT

To declare and fix the priority of the claims of local registrars of vital statistics in the several counties in the State.

*Be It Enacted by the Legislature of Alabama:*

Section 1. That the claims of local registrars of vital statistics in the several counties in the

State for the compensation and fees provided by law to be paid out of the county treasury are hereby declared to be and are fixed as preferred claims against the county and shall be given priority in the same order as are claims enumerated in subdivision 4 of Section 231 of the Code of 1923.

Section 2. That all laws and parts of laws in conflict herewith are hereby expressly repealed.

Section 3. That this Act shall take effect immediately upon its passage and approval.

Approved April 21, 1936.

Experience has shown that many counties, particularly those located in the southern half of the State, delay in the payment of their registrars. In at least two counties no payment has been made during the past three years. Frequently, if the registrar receives payment, he is forced to cash his warrant at a discount. The fee of twenty-five cents is small enough and should be paid in full and promptly when due.

We know that in those counties in which payment has not been made, or made only after a considerable delay, registration is much less complete than in counties that have paid in full and when due. The value of the registration of births and deaths is well recognized and should not be lost through failure to pay the registrars.

Because of the fact that heretofore the payment of registrars was a preferred claim of a low order, registrars failed to receive their pay, or received it only after a long delay or through loss by a discount. In order to correct this situation, the above bill was prepared placing the order of the preferred claim in Class 4, where it is believed warrants will be honored promptly and in full.

The second bill to which reference is made pertains to the registration of the original marriage license and marriage certificate.

It has been the custom in the past to file these documents in the office of the judge of probate from which they were issued. The fact that they are distributed over 67 counties and frequently poorly indexed has often made it difficult to quickly locate the certificates. Furthermore fire hazards constantly endanger these important records and in several counties they have been completely destroyed by fire.

It is obvious that they should be kept in one place, properly bound, indexed and in a fire-proof vault. The Bureau of Vital Sta-

tistics of the State Board of Health is prepared to do this.

Very shortly this service will be provided the people of Alabama. The bill providing for the above reads as follows:

#### AN ACT

To provide for the registration of original marriage licenses with the Bureau of Vital Statistics of the State Board of Health and license fees therefor and to provide for the issuance of certified copies thereof.

*Be It Enacted by the Legislature of Alabama:*

Section 1. That upon the return of each marriage license to the issuing probate judge, as provided in Section 9001, of the Code of Alabama, 1923, he shall forthwith record the same, and shall, on or before the fifth day of each month, transmit all original licenses with the certification of the person solemnizing the marriage thereon, received by him during the preceding calendar month, to the Bureau of Vital Statistics of the State Board of Health at Montgomery. Provided that as to any marriage licenses issued and not returned to the issuing probate judge, and, or any marriage licenses returned to the issuing probate judge and not recorded by him so as to be transmitted to the Bureau of Vital Statistics, as in and by this section provided, such issuing probate judge shall report the same to the said Bureau at the time of transmitting the recorded licenses on the forms to be prescribed and furnished by said Bureau.

Provided further that if no marriage licenses are issued and, or returned to the issuing probate judge to be transmitted or reported to said Bureau, as by this section provided, said issuing probate judge shall report such fact to the said Bureau upon forms prescribed and furnished by it.

That for this service the judge of probate shall be entitled to a fee of twenty-five cents for each original marriage license transmitted to the Bureau of Vital Statistics of the State Board of Health at Montgomery, such fee to be paid by the person obtaining the marriage license. In no case shall a license fee in any county, including the fee of twenty-five cents, exceed two dollars.

That the records of marriages obtained under the provisions of this Act shall be compiled, kept and preserved as are other vital statistics under the provisions of Section 1083, Code of Alabama.

That a certified copy of any marriage license on file with the Bureau of Vital Statistics shall be furnished upon request, to any applicant entitled to same, upon payment to said Bureau of a fee of fifty cents for each certified copy, unless otherwise exempt.

That all forms used in the issuance of marriage licenses in this State shall be prescribed and furnished by said Bureau of Vital Statistics.

Section 2. That all laws or parts of laws in conflict with this Act be and the same are hereby repealed.

Section 3. That this Act shall go into effect upon its approval.

Approved April 21, 1936.



## BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

### PRENATAL CARE

The following excerpt is from the report of the Committee on Maternal and Child Welfare made at the recent meeting of the State Medical Association in Montgomery. The word "deaths" in the first sentence refers to maternal deaths:

"How may many of these deaths be prevented? By prenatal care judiciously and faithfully carried out. However, prenatal care isn't all. The physician's obstetrical judgment is put to a test in every case. If the pelvis is in question, limit the examinations to the minimum, employing rigid asepsis and preferably rectal examinations. In case of hemorrhage, early transfusions; conservatism in eclampsia; cesarean section limited to those cases with a clear cut obstetric indication; forceps should never be used except when clearly indicated and possibly when there is a definite uterine inertia with complete dilatation and a perfectly normal position and passage, with the presenting part engaged. It is comparatively simple to pack the uterus, and many postpartum hemorrhages can be checked by so doing. The uterus should be emptied in hyperemesis cases only after reasonable treatment has failed."

Attention is particularly directed to the answer to the question at the beginning of the quotation: "By prenatal care judiciously and faithfully carried out." The physician who is to attend the woman at confinement is regarded as the person responsible for her care during the prenatal period, at delivery and during the puerperium. The maternal hygiene program of the public health nurse is developed in cooperation with local practicing physicians. Her work is educational and complementary to that of the physician on the case. When a midwife is to be employed the public health nurse assumes a larger share of the responsibility for instruction in maternal care.

In order to avoid confusion and misunderstanding County Medical Societies are urged to adopt a plan of nursing procedure with the understanding that the wishes and instructions of the individual physician will be observed in each case. The public health nurse to render the greatest amount of service to both patient and physician should be instructed, when making prenatal visits, to:

1. Take the temperature, pulse, respiration and blood pressure of each expectant mother.
  2. Collect a specimen of urine for the physician, or make a urinalysis at his request.
  3. Note condition and report to the physician immediately if she finds such abnormalities as severe nausea and vomiting, varicose veins, edema, persistent headache, dizziness, dyspnea, bleeding, etc.
  4. Report conditions found to the physician.
- The advice of the nurse to the patient includes:
1. Early engagement of physician.
  2. Hygiene of pregnancy.
    - a. Proper care of teeth with routine visits to a dentist, and the relation of diet and teeth in pregnancy.
    - b. The importance of care of the nipples.
    - c. Necessity of avoiding constipation through diet.
    - d. Regular bathing, exercise and rest.
    - e. Suitable clothing.
    - f. Ample diet with a variety of foods. In no instance does the nurse presume to recommend any form of medical treatment.
  3. Preparation for delivery and for care of the baby.
    - a. How to recognize when labor begins.
    - b. When to call the physician.
    - c. Preparation of mother's room and bed.
    - d. Arrangement of supplies to be readily accessible to the attendant.
- Since medical care at child birth is unknown to many mothers, they know little or nothing about the care they can and should receive from a physician during pregnancy. The public health nurse can teach them what this care consists of and the importance of securing it early in pregnancy.
- In order that prenatal nursing supervision may become a real factor in the health program of a county it must reach a large percentage of the pregnant women in that

community. With funds available through the Social Security Act and the State Health Department, additional nursing personnel has been added to many of the County Health Units in order that a greater number of expectant mothers may have the advantages of maternity nursing services.

It is believed that if physicians will acquaint themselves with the aid the public health nurse is capable of giving and will utilize these services, the maternity service will be improved and much will be accomplished in the matter of lowering Alabama's high maternal mortality rate.

CURRENT STATISTICS

\*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

	March	April	Estimated Expectancy April
Typhoid	4	5	20
Typhus	7	8	5
Malaria	116	131	118
Smallpox	3	1	27
Measles	126	133	1326
Scarlet fever	56	25	47
Whooping cough	53	62	209
Diphtheria	43	51	54
Influenza	8330	4017	357
Mumps	347	563	145
Poliomyelitis	2	1	2
Encephalitis	2	0	2
Chickenpox	208	69	197
Tetanus	4	5	5
Tuberculosis	206	235	369
Pellagra	19	26	59
Meningitis	11	18	9
Pneumonia	1322	744	389
Syphilis	806	877	169
Chancroid	8	15	9
Gonorrhea	209	291	152
Ophthalmia neonatorum	3	1	2
Trachoma	0	0	0
Tularemia	0	2	1
Undulant fever	0	2	0
Dengue	0	0	0
Amebic dysentery	0	0	0
Rabies—Human cases	0	0	0
Positive animal heads	39	90	0

\*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years. With the venereal diseases, clinic cases were not included prior to this year.

"There are two grand divisions of medicine, one being to prevent and the other to cure diverse diseases, yet they are related closely. . . . Every physician is a potential health officer with ability to perceive the common welfare as an object worthy of his constant study and effort.—Gray.

Medical News

(Secretaries of county medical societies and other physicians will confer a favor by sending for this section of the Journal items of news relating to society activities.)

The State Board of Medical Examiners announces that annual examinations for certificate of qualification to practice medicine in Alabama will be held in Montgomery, June 23, 24 and 25. Registration will take place on Monday, June 22, at the office of the Secretary, Dr. J. N. Baker, in the State Board of Health Building, 519 Dexter Avenue.

Drs. J. F. Sewell and J. S. Harmon announce the opening, on May 24, of the Wetumpka General Hospital.

The Chattahoochee Valley Medical Association's 1936 meeting, Radium Springs, Georgia, July 14 and 15, will be a memorial to the late Dr. W. J. Love, of Opelika, founder and for many years secretary of the organization.

Scientific exhibits will constitute an interesting feature of the session. Those desiring space should communicate with Dr. J. A. Redfearn, Albany, Georgia.

According to Mr. J. W. Dowdle, Easonville, and Mr. D. D. Scarbrough, Aliceville, physicians are desired for Easonville and the Jena neighborhood. Interested ones may procure further information by writing the above named.

The Eleventh Annual Session of the Alabama Pediatric Society was held in Montgomery, Monday, April 20th. Thirty-four pediatricians were in attendance, five visitors and five guest speakers. The latter were Dr. Lesesne Smith, Sr., of Spartanburg, S. C., who discussed "Interesting Pediatric Problems" and "Upper Respiratory Infections"; Major H. H. Parsons, Fort McClellan, "Some Findings in Mumps"; Dr. Samuel F. Ravenel, Greensboro, N. C., "Experiences with Nephritis in Children"; Dr. Owen Wilson, Nashville, "Vomiting in Young Babies, with Special Reference to Pyloric Stenosis"; and Dr.



Jno. Signorelli, New Orleans, "Eczema from the Pediatrician's Standpoint."

The following were elected officers: President—Dr. W. A. Clyde, Fairfield; Vice-President—Dr. J. H. Baumhauer, Mobile; Secretary-Treasurer—Dr. M. G. Neely, Fairfield.

Letter received by the Secretary of the Association from the Surgeon General of the United States Public Health Service, regarding the National Health Survey, is quoted verbatim:

"The field staff of the National Health Survey, carefully trained in gathering detailed, accurate information, has completed the extensive canvass of chronic and disabling illness conducted by the United States Public Health Service in nineteen states.

"When the study was initiated last fall, the program was discussed in the October 5th issue of the Journal of the American Medical Association. As announced at that time, there was special realization of the great value that would accrue to this scientific survey if supplementary facts could be obtained from physicians in cases of medically attended illnesses. Accordingly, when medical attendance was reported, permission to secure additional data from the doctor was requested of the family by the field worker. Assured that the information would be regarded as confidential and would be used for purposes of statistical compilation only, families were cooperative in granting the privilege of confirming diagnoses.

"Appropriate forms are now being received by the attending physicians named by informants, and the Health Survey is asking the cooperation of members of the medical profession in this very important phase of the study. It will be appreciated if you will announce the confirmation plan to your Society, urging the desirability of having the forms returned as promptly as possible.

"For each form filled and returned the physician will receive a fee of twenty-five cents, a small compensation for the service he will render in executing the blank. By supplying the information requested he will contribute invaluable data to this study and assure the scientific accuracy of the results."

## *Woman's Auxiliary*

Mrs. W. H. Gray  
State Publicity Chairman  
Mobile, Ala.

The Woman's Auxiliary to The Medical Association of the State of Alabama extends congratulations to its new President, Mrs. Lee Wright Roe of Mobile, who was installed at the Montgomery Convention at an impressive ceremony conducted by Mrs. Seale Harris of Birmingham, State Auxiliary's first President.

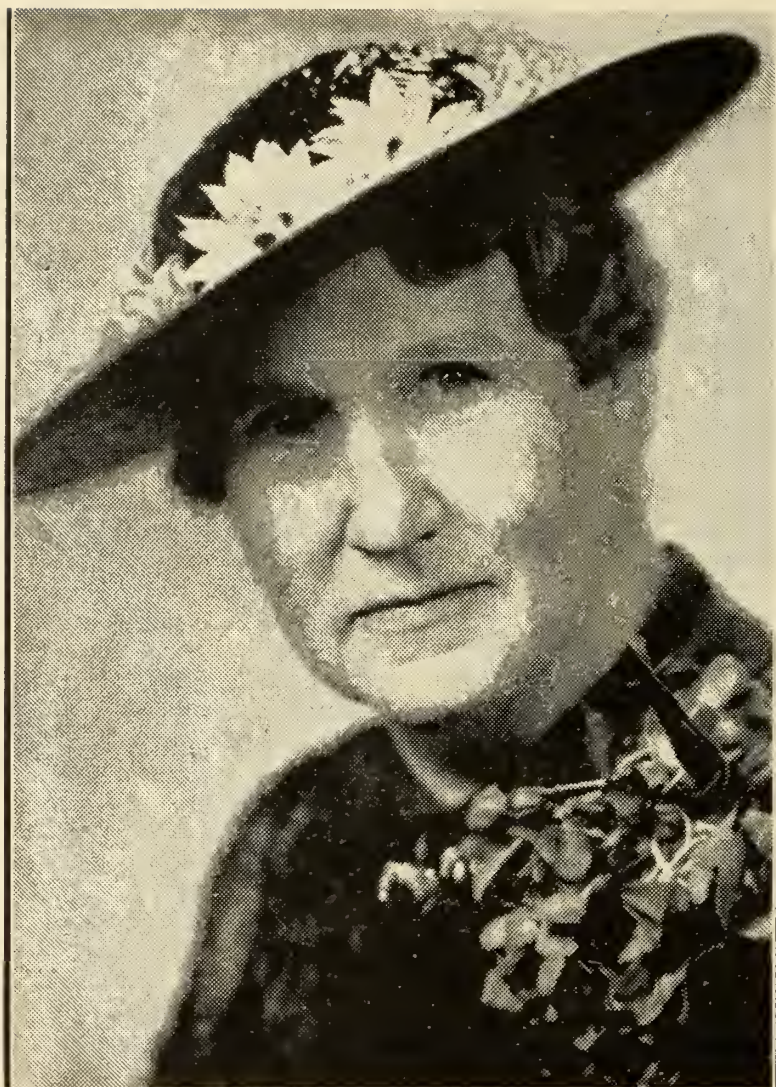
In taking office the new President graciously expressed her appreciation for this the highest honor within the gift of the State organization, and pledged her best efforts to perform conscientiously all the duties of her office. The President solicited the whole-hearted support of every individual and of each county auxiliary in order that the work of the administration may be successful during the coming year.

The President comes to her new responsibility with a splendid record of service to both State and local auxiliaries since their organization in 1923. Mrs. Roe attended the San Francisco Convention when the National Auxiliary was organized. She has served as Publicity Chairman for the Woman's Auxiliary to the Southern Medical Association and has attended many conventions of National and Southern Medical. She has been a member of the State Executive Board for the past three years.

Other officers elected at the same time were: President-Elect, Mrs. Neal Wood, Edgewood Lake, Route 2, Birmingham; First Vice-President, Mrs. G. O. Segrest, 1906 Dauphin Street, Mobile; Second Vice-President, Mrs. T. F. Huey, 1122 Christine Avenue, Anniston; Third Vice-President, Mrs. G. D. Waller, 1720 Granville Avenue, Bessemer; Fourth Vice-President, Mrs. Andrew G. Finlay, Guntersville; Secretary, Mrs. J. Mac Bell, Flo Claire, Mobile; Recording Secretary, Mrs. D. J. Coyle, 2907 13th Avenue South, Birmingham; Treasurer, Mrs. A. M. Cowden, 2314 Springhill Avenue, Mobile.

### AUXILIARY OBJECTIVES 1936-37

The Auxiliary objectives, as presented by the President for the ensuing year and endorsed by the Executive Board, are as follows:



MRS. LEE WRIGHT ROE  
Mobile, Alabama  
President of The Auxiliary  
1936-1937

1. To secure an advisory committee or counsellor for each county and district auxiliary, and to be guided in all State activities by the Advisory Committee of the State Medical Association.

2. Know the doctors' wives in your community and create a friendly spirit among them. To assist in the entertainment at county, district, and State meetings, and promote mutual understandings among physicians' families through social contact. This is conceded to be one of our most important functions. It is our duty to encourage and preserve fellowship.

3. To contribute to the scholarship fund

as early as possible so that the Chairman may know what amount is available.

4. In each county auxiliary to have, if possible, Chairmen corresponding to State, Southern, and National Auxiliaries: Organization, Hygeia, Legislation, Health Education, Press and Publicity, Public Relations, Historian, Research in Medicine, Jane Todd Crawford Memorial, Lettie Daffin Perdue Scholarship Fund.

5. To present the health education program outlined for us by the Medical Association of Alabama to all lay organizations, the Medical Association and local auxiliaries appointing the speakers, the Auxiliary



supplying approved educational material. The educational charge of the Auxiliary includes programs on child psychology, child welfare, school hygiene, mental hygiene, social hygiene, and heart diseases with certain brief three-minute talks on other phases of health particularly applicable or important in Alabama.

Use list of papers from Lending Library, Research Committee of the Woman's Auxiliary to the Southern Medical Association.

To read them carefully until familiar with them, as a convincing speaker is a well informed speaker.

6. To accept chairmanships of health and public welfare in other organizations or any office that will advance the work of the Auxiliary, as Girl Scouts, Y. W. C. A., P. T. A.'s, and Garden Clubs.

7. To provide a milk fund for undernourished school children.

8. To place Hygeia in schools, high schools, libraries, and county or district schools.

9. To read the Auxiliary pages of the Journal of The Medical Association of the State of Alabama. To contribute to them and send items of interest to District and State Scrapbook Chairman.

10. To re-enlist former members and secure the membership of *every* eligible wife.

11. To cooperate promptly with Southern and National Auxiliary recommendations.

12. To set aside a day in May as Doctors' Day. On this day to have programs or suitable exercises honoring the men who have dedicated their services to the welfare of humanity.

13. To make Auxiliary success an individual project for this year.

Our task is to become informed so that we can inform others.

14. Every effort will mean Auxiliary growth and will assist in making a satisfactory accounting to The Medical Association of the State of Alabama at the 1937 convention in Birmingham.

## Truth About Medicines

### PROPAGANDA FOR REFORM

Treatment of Arthritis by Bee Venom.—Attempts have been made repeatedly to place this form of treatment on a scientific foundation. Almost without exception medical reports have been inadequate—inadequate because little attempt at classification of the type of rheumatic diseases treated has been made. Terminology used is most indefinite and indicates lack of familiarity with types of diseases concerned. The terms "rheumatoid heart affections," "endocrine polyarthralgia," "arthritis" and others are used without definition. Beck expressed the opinion that venom therapy has been abandoned because of difficulties in use of live bees. This has been obviated by commercial preparations: apicosan, immenin, apisin and British bee venom. Beck has attempted to stimulate interest in this method by a review of literature on the subject. He exhibits a lack of critical appraisal of his material, and accepts laymen letters as important evidence. According to Beck, the physiologic effect of bee venom is comparable to histamine, which has been advanced by some for the treatment of rheumatic diseases. These ideas of Beck are not in accord with those accepted by the greater number of writers on the subject. The gross error in Beck's presentation is that he has omitted details of his own experience with treatment. It is stated that patients with "arthritis and rheumatism" possess immunity to bee venom but in spite of this it has also been repeatedly stated that the results from injection of bee venom in arthritis arise through the production of "a slow, gradual, progressive and comfortable immunization." It is not made clear how one can immunize a person already immune. There are a variety of diseases presumably successfully treated, such as rheumatic fever, endocarditis, Bechterew's spondylitis, myalgia, neuritis, migraine, and others. But, there is not original proof by Beck in support of these statements. Beck's description of the plan of dosage, technic of administration, and reactions are inadequately and unclearly presented. The questioner is referred to Beck's book. Certainly, the place of bee venom therapy in rheuma-

NEXT MEETING

BIRMINGHAM

APRIL 20-22, 1937

tism is not materially strengthened by this book. (J. A. M. A., May 2, 1936, p. 1588.)

**Vitamin D Milk.**—Because of the practicability of administering vitamin D to infants directly in milk, this fluid fortified with the vitamin, either by the addition of concentrates, by the feeding of irradiated yeast to the cow, or by the direct irradiation of the milk, has received special attention. Clinical experience with the different types of "vitamin D milk" in the prevention and cure of rickets in infants has indicated that, unit for unit there appears to be no great difference between the antirachitic value of the three types. If a slight difference actually existed, it was thought to be in favor of the milk irradiated directly. A recent experimental investigation on chicks by Haman and Steenbock, however, seems to indicate that in this species a distinct difference exists between the antirachitic activities of "yeast milk" and of "irradiated milk." The results demonstrated that "irradiated milk" is approximately ten times more effective than the same number of rat units of "yeast milk" and, further, that the antirachitic activity of the former compares favorably with that of cod liver oil and irradiated cholesterol. A distinct difference between the vitamin D content of the cream and that of the skim milk portion of "irradiated milk" and "yeast milk" was also described. The foregoing investigation gives no support to the possibility that the baby chick can be used with greater accuracy than the rat for ascertaining the antirachitic effectiveness of different vitamin D containing substances in infants. However, it is of some interest in this connection that, according to a recent clinical study by Davidson, Merritt and Chipman, the feeding of "yeast milk" to premature infants as the sole source of vitamin D proved to be inadequate for achieving complete protection against rickets. It would seem that the question of the relative merits of various antirachitic agents is far from solved and that there is an urgent need for further carefully conducted and controlled studies of the problem, particularly in full-term and premature infants. (J. A. M. A., May 9, 1936, p. 1664.)

**The Status of Certain Questions Concerning Vitamins.**—As a result of the increasing importance of questions concerned

with vitamin containing foods and medicinal preparations, the Council on Pharmacy and Chemistry and the Committee on Foods of the American Medical Association appointed a joint cooperative committee for study of this field with instructions to report to the two parent groups. The following is a summary of the Council's decisions based on the Cooperative Committee's recommendations: The Council decided that it would consider vitamin products, for advertising both to the public and to the profession, on the basis of the general principle that advertising to the public of vitamin preparations for prevention of disease (but not for the treatment of disease) shall be permitted provided the dosages are within the established concentrations which are considered safe; also that the Council shall not accept for sale to the public concentrates or pure forms of vitamins when the facts as to dosage are not available or when the daily dosage recommended is beyond that considered safe; furthermore, that usefulness and necessity as a prophylactic must be established. The Council, after considering the report of the Cooperative Committee's deliberations, set the dosage of cod liver oil for infants at two teaspoonfuls daily. In February 1935 the Council voted to inform manufacturers of accepted products that under conditions of ordinary usage there does not appear to be necessity for use of hydroquinone for the proper preservation of cod and halibut liver oils and that, until more convincing evidence in favor of the practice is submitted, it may not be permitted. The Cooperative Committee considered the further arguments advanced by the manufacturers in favor of the use of hydroquinone, but felt that this was not sufficient evidence of the harmlessness of the use of hydroquinone. The Council approved the conclusion of the Cooperative Committee that the previous action should stand but that it be not enforced for another six months in order to permit firms opportunity to gather evidence of a worthwhile nature and that in the meantime no claims for stabilization shall be made. The Council adopted the recommendation of the Cooperative Committee that firms be asked whether or not they have been able to obtain any better evidence to warrant the claim that carbon dioxide when used in fish liver oils in-



creases palatability and prolongs stability, and that in the meantime such claims be not recognized until these firms can produce the satisfactory evidence required. The Council adopted a statement of permissible prophylactic and therapeutic claims for vitamins A, B ( $B_1$  and G), C and D which will appear in *New and Nonofficial Remedies*, 1936. The Cooperative Committee recommended that the Council declare that there is no evidence to indicate that vitamin E has therapeutic merit and that the Council do not accept any vitamin E preparations. The Council voted in agreement with an opinion of the Cooperative Committee concerning malt preparations with cod liver and viosterol, claimed to contain vitamins  $B_1$  and G, to inform manufacturers of accepted products of this category that no claims for the vitamin B and G content of such preparations will be recognized, and that after Jan. 1, 1937, not even the statement that these vitamins are present should be made, because of the danger of arousing false implications. The Council concurred in the Cooperative Committee's recommendation (1) that although the Council is never opposed to experimental investigations under proper directions and facilities, it does not feel that there is at this time sufficient evidence to warrant the acceptance of viosterol preparations of very high potency; and (2) that it decline to suggest to the Wisconsin Alumni Research Foundation that the marketing of such high potency preparations to the medical profession by its licensees is advisable. (*J. A. M. A.*, May 16, 1936, p. 1732.)

Annual Meeting of the Council on Pharmacy and Chemistry.—The following were among the subjects considered at the annual meeting of the Council on Pharmacy and Chemistry of the American Medical Association: The Council discussed extensively the plans for the reorganization of the Council on Pharmacy and Chemistry, the Council on Physical Therapy and the Committee on Foods. The reorganization contemplates a federation of these groups particularly for administrative purposes and as a means of handling overlapping problems. This reorganization is not for the purpose of amalgamation. The Council adopted the recommendation of the Cooperative Committee on Policy, Rules and Procedure that the separate seals of the in-

dividual councils be retained. The Council adopted certain regulations in reference to the clinical testing of vitamins in vitamin-containing preparations. The Council voted that in cooperation with the Committee on Foods there be appointed an editorial committee under whose supervision there will be devised a contemplated series of articles on vitamins. It discussed the statement on the allowable claims for vitamins, the matter of dosage of cod liver oil for infants, and lay advertising of vitamin-containing preparations. A report on these questions was published in *The Journal A. M. A.*, May 16, 1936, p. 1732. The consensus of the Council was that the published statement on the labelling and marketing of liver preparations has been found satisfactory. The Council adopted the following statement in reference to advertising claims for aminophylline preparations: "It has been claimed that in certain cases relief of pain has followed the use of theophylline preparations in cardiac conditions. The evidence that this was due to the theophylline is not convincing, and there is no evidence that the improvement, if it occurred, was due to coronary dilatation." The Council voted to recognize as acceptable for the nomenclature of bacteria the generic names proposed in the final report of the committee of the Society of American Bacteriologists on characterization and classification of bacterial types (*J. Bact.* 5: 191, 1920). The Council discussed the situation with reference to the new alkaloid of ergot and adopted the name "Ergonovine" as the nonproprietary designation of this alkaloid. The Council objected to the use by pharmaceutical houses of the personal endorsement signature of a physician, and decided that articles so labeled or advertised are not acceptable. The Council voted that the referee prepare a report on the present status of the injection treatment of hernia for submission to the Council with a view to ultimate publication. The Council voted that after July 1, 1936, the Council consider no new bismuth preparations unless they show some distinctive advantages over those already accepted. The Council discussed the labeling of products subject to deterioration, and adopted a motion that any products of this sort be labeled with a statement of the composition at the time it leaves the manufacturer, and

is dated; furthermore, in case the product deteriorates or is subject to deterioration, that a supplemental statement be made as to the amount and or rate of deterioration, either by indicating the percentage of deterioration per year or the actual minimum amount at the end of the year. (J. A. M. A., May 23, 1936, p. 1806.)

#### ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following apparatus have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

**Emerson Diaphragm Respirator, Infant Model.**—This is a simple apparatus for producing prolonged artificial respiration. The machine may be operated by an electric motor, or by hand. According to the manufacturer, "when a patient is placed in the machine correctly, and when the machine is operated as directed, alternate positive and negative pressures adjustable as to rate and amount are created within the machine, causing the patient's chest to move as in natural breathing, if natural breathing is not functioning; so that the patient will breathe unless the air passage to the lungs is obstructed." J. H. Emerson, Cambridge, Mass. (J. A. M. A., May 2, 1936, p. 1564.)

**Hogan Brevartherm Short Wave Diathermy Unit, Model 8800 (Two-Tube).**—This unit is designed to produce electric current oscillations of high frequency which are suitable for the production of heat within the body tissues and for surgical tissue cutting. Burns may be produced by this machine, but they may be avoided by ordinary precaution. McIntosh Electrical Corporation, Chicago. (J. A. M. A., May 9, 1936, p. 1660.)

**Radioear De Luxe Hearing Aid, Type B-20.**—This unit is an electrically operated, wearable, artificial hearing aid. The outfit consists essentially of a microphone, an amplifier, a battery supply, and an air or bone conduction receiver. The power is obtained either from special hearing aid batteries or from three standard flashlight cells; for the latter cells, a battery case is supplied as standard equipment. The microphone employs the simple telephone hook-up principle, modified to the manu-

facturer's design. The "intensifier" is an auxiliary amplifier which mechanically and electrically increases the amplitude of the electrical output of the microphone. E. A. Myers and Sons, Pittsburgh.

**Fischerquartz Ultraviolet Lamp, Model No. 77.**—This lamp is a "cold quartz" ultraviolet generator, and consists of a tube of fused quartz about 7 mm. in outer diameter, bent into three concentric, hexagonal rings. Directly back of this grid ("burner") is a flat, etched, aluminum reflector, around the edge of which is a flange of bright metal. The intensity of the ultraviolet is above the minimum for acceptance adopted by the Council. The Council accepted the lamp with the understanding that it is to be used for irradiation of the body (not applicable for cavity irradiation) for therapeutic purposes, under the guidance of a qualified physician. (J. A. M. A., May 23, 1936, p. 1806.)

**Eveready Professional Carbon Arc Lamp, Model L-1.**—This is a carbon arc type generator lamp and is offered by the manufacturer to the medical profession for use in its professional application of carbon arc lamp radiation. The manufacturer has no special recommendation for application of this lamp in any therapeutic procedure. The application can be made only by the physician who is in charge of the particular case. Experiments with representative specimens of untanned human skin indicate that at a distance of 3 feet from the lamp, when the lamp is burning Eveready Therapeutic C carbons, an erythema is produced in about four minutes. At a distance of 2 feet the same degree of erythema is produced in about two minutes. National Carbon Company, Inc., Carbon Sales Division, Cleveland. (J. A. M. A., May 30, 1936, p. 1899.)

**Western Electric Audiphone.**—The Audiphone is an electrically operated, wearable hearing aid. The outfit consists essentially of a microphone, batteries, amplifier, and a bone or air conduction receiver. One type of unit for the less hard-of-hearing is not equipped with an amplifier. The entire receiver weighs slightly over half an ounce and is 11/16 inch wide, 1 5/16 inches long, and a maximum of 9/16 inch deep. The case is made of phenol plastic material. Western Electric Company, New York. (J. A. M. A., April 18, 1936, p. 1386.)



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### THE JOURNAL OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

Volume 5

July 1935-June 1936

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## Miscellany

### DO YOU KNOW?

(A release of the Medical Society of the State of New York)

Baby blue whales are about 23 feet in length, but they grow up to be as long as 80 to 100 feet.

Mine disasters caused by the cave-in of roofs may be prevented, says Dr. H. Lansburg of the School of Mineral Industries, Pennsylvania State College. According to Dr. Lansburg, there is a break in the overhead rock several hours before the cave-in occurs. He has perfected a device by which a movement of one one-hundredth of an inch can be detected.

Heart-beats of elephants average 30 per minute; human beings, 72.

The probabilities of going insane are three times as great if a man is a bachelor than if he is married, and if he be divorced, his chances are greater still.

American women are more beautiful than those of any other country, according to Prof. G. G. Deaver, of New York University, who explains that in America wives are chosen for beauty rather than for family name or dowry, and heredity and environment do the rest.

The average life of a horse is 15 years, of a mule, 18.

Do you have the "blues"? The brain, like the boy, becomes tired. Be a child once in a while, be natural, don't expect too much from life, or that everything will come out just as you planned. A good, fair average of usefulness should be enough for everyone.

Tobacco smoking dulls the taste for sugar or salt, according to experiments made by Drs. John E. Rauth and James J. Sinnott at the Catholic University of America.

**Classified Advertisement**—A physician of experience and ability would like a location, or association with other physician. Address XY, care this Journal.



## Doctors find many uses for this delicious food-drink

THE use of Cocomalt by the medical profession continually increases. This delicious chocolate flavor food-drink has a rich content of Iron, Calcium, Phosphorus, Vitamin D. An ounce of Cocomalt (the amount used to make one glass) provides 5 milligrams of Iron in easily assimilated form. Three glasses provide 15 milligrams of available Iron, the amount recognized as the average daily nutritional requirement.

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Long Island duck raisers keep electric lights burning all night. Hens scratch longer, fatten quicker.

---

Experiments on rabbits and cats by Drs. L. B. Nice and H. L. Katz of Ohio State University show that the specific gravity of blood is increased by excitement.

---

Rabbits need sunshine, providing vitamin D which assists the body to utilize calcium and phosphorus, especially needed in the development of bones and teeth.

---

Less trouble will be experienced getting children to go to bed when they should, if a few minutes' final notice is given so that they can come to a stopping place in whatever they are doing.

---

Until a child is six years of age, he needs to sleep during the day. In general this schedule is a good one: at 6 months, 16-18 hours; at 1 year, 14-16 hours; 2-5 years, 13-15 hours; 6-7 years, 12 hours; 8-10 years, 11 hours; 11-15 years, 10-12 hours.

---

Modern airplanes last from five to ten years.

---

Women were writing to men for money as early as 2,000 B. C., according to Dr. John B. Alexander of Yale University, who has been engaged in deciphering clay tablets found in Babylon.

---

Bicycles were invented by a Frenchman named Michaux in 1855. He was a saddler and had to repair a tricycle. He began to play with it while it remained in his shop, tried two wheels instead of three, put his foot on the ground to propel and balance himself. He discovered that he could keep his balance by turning the front wheel. Then he added pedals and the bicycle was born.

---

Medical discoveries sometimes have been made by accident, too. The liver treatment for anaemia grew out of studies of the coloring matter of the blood.

---

Money spent for milk gives a greater return in nutritive value than money spent for any other food.

Constant scientific experiment and the accumulation of all facts about a problem, whether they seem of value or not, is the price paid for progress in medical research. Insulin is one of the few great discoveries which was directly sought.

---

Surveys are to be made by A. A. A. to determine whether milk is a public utility and ought to be handled through the Federal Trade Commission, according to the "Financial World."

---

Mothers who stuff babies to see them gain weight may also see them get eczema.

---

Lazy colons do not cause so much constipation as lazy people. Nature has a cure for these conditions which is the best one: Plenty of vegetables in the diet, plenty of exercise in the open air; regular habits.

---

Chimpanzees are found to have among their numbers both chronic beggars and liberal givers, according to studies made by Dr. M. P. Crawford of the Yale University Psychological Laboratories. A few will never beg food of another, whether hungry or not; others are permanently on relief and ask for food even when they have plenty. Some are generous and give voluntarily to others though they are very strong and could hold their possessions; others never respond to pleas for food, no matter how well their own wants are supplied.

---

Rarely is the human body given an opportunity to wear out; few people die a natural death. When a man is not at war with other men, he is at war with himself, and his environment.

---

Coffee affects the central nervous system and is harmful or not, depending on the amount consumed and the nature of the coffee drinker. All people are not made alike and respond differently to the same stimulus. If generalities about such things were of much practical use, anybody could go to a library and cure themselves of their ailments. When doctors are sick, they are often said to make difficult patients, because they know too much about disease and too little about themselves; they cannot be good observers of their own symptoms.



Reputable physiologists have said that so far as the durability of the tissues is concerned, man might live to be a hundred years more often than he does. Generally in the animal world, to estimate longevity of a species, we may safely multiply the period taken to reach maturity by five. It must be said that man, the most intelligent, lags behind other animals in average length of life.

Which brings us to the "dangerous" generality that a man who tries to be his own doctor may have a dead man for a patient.

Doctors in a Brooklyn hospital had their hands full when patients struck and refused to go to bed at a certain time. What an age we live in! Relief workers are striking, social workers have planned to strike; perhaps we may yet have a strike of politicians.

The small intestine is longer than the combined height of four men.

Obesity is usually due to the fact that a person eats too much and exercises too little. Controlled diet will help. Recently there have been a number of deaths due to self-treatment with preparations containing dinitrophenol. It is a powerful stimulant and may have extremely harmful effects when it does not threaten life itself.

Just too bad that Science cannot make thin people fat, fat people thin, tall people short and short people tall; cure tuberculosis, cancer, rheumatism, arthritis with a spoonful of a miraculous substance. Somebody ought to start a special course to be added to curriculums of senior classes in high schools and colleges. It might be called the "Don't Know" class—a general review of all subjects studied previously, and in relation to each one, it should try to make clear that the subject has only been partially treated, giving some idea of the vast realm of knowledge which has been wholly untouched in the class room. Then graduates might hesitate, in later life, to think they know a lot of things they don't know at all. This would help reduce the general level of gullibility which makes quackery profitable.

It is difficult to make the truth credible.

Baldness was cured in England during the 17th Century by rubbing an onion on the head and standing in the sun.

Diamonds are not so rare as is commonly believed. Great mounds of them are on hand in the mining district of Kimberley. Their price is kept high because their flow into the market is regulated by the mine owners.

The original copy of the Declaration of Independence is guarded by an ex-officer of the British Army.

Finger rings that would prevent cramps were popular in England from the 15th to the 20th century. At first they had to be blessed by the King to be of value, but later they became so popular the King's blessing was omitted. Finally millions of them were sold for every imaginable ill.

There is no truly "acid" condition of the body. It is always alkaline. "Acidosis" is merely reduced alkalinity.

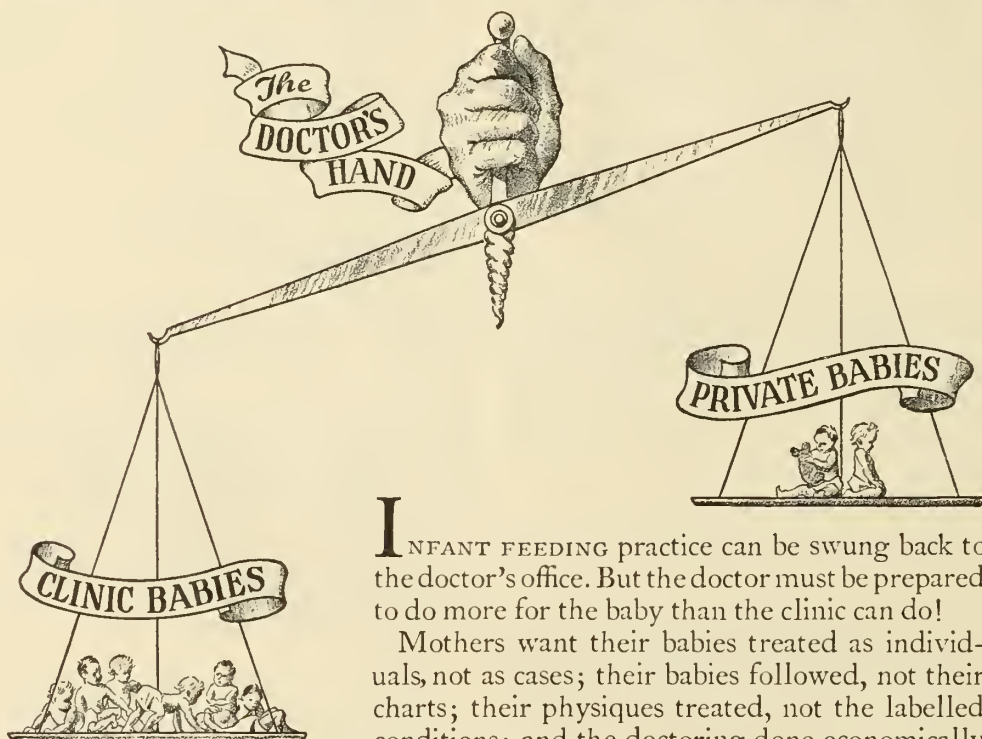
Ship's sirens generate ten million times the sound power of ordinary conversation. All the people in New York City speaking at once could not out-yell one big boat in the East River.

Dr. Arthur C. Wherry, past president, American Dental Association, has just returned from a study of European dentistry under sickness insurance. "The people," he says, "are not receiving commensurate service given the poor and indigent in this country. The whole profession has degenerated, the cheapest kind of material is used. There is no attempt to preserve teeth, to teach preventive measures."

This is the age of short cuts, but there is no short cut to health. Medical care for more people will come naturally, without state medicine, when more people want medical care.

Rats learn faster when they are hungry, say two Harvard University scientists, Dr. M. H. Elliott and W. C. Treat. "Like mice, like men?"

# FEWER CLINIC BABIES... MORE PRIVATE BABIES



**I**NFANT FEEDING practice can be swung back to the doctor's office. But the doctor must be prepared to do more for the baby than the clinic can do!

Mothers want their babies treated as individuals, not as cases; their babies followed, not their charts; their physiques treated, not the labelled conditions; and the doctoring done economically and effectively.

With improved economic conditions, the trend is consequently returning to private practice. Encourage it!

The doctor knows his practice, the mother her economies. When the infant feeding materials prescribed are within the reach of every budget, mothers will appreciate the physician and babies will thrive.

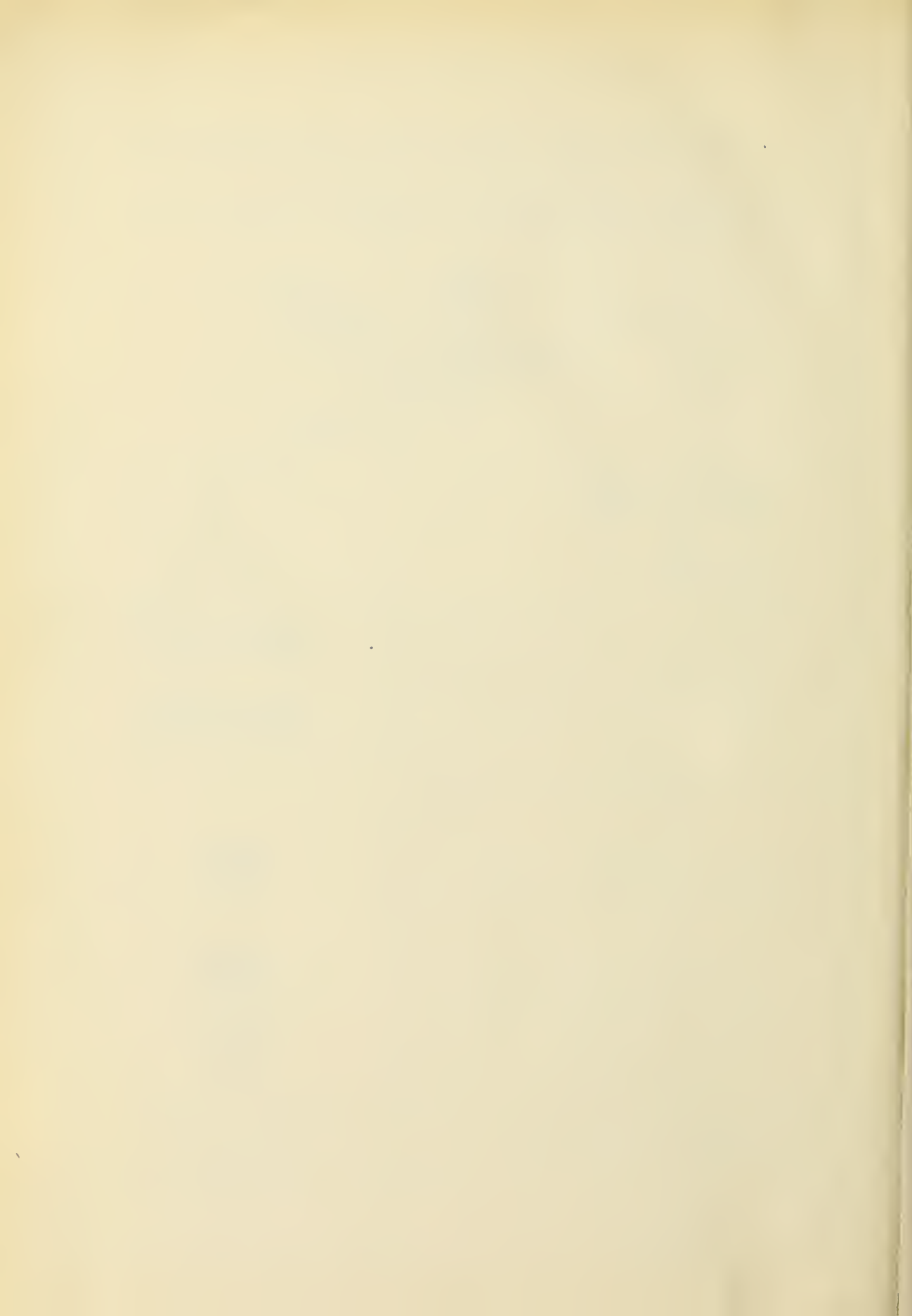
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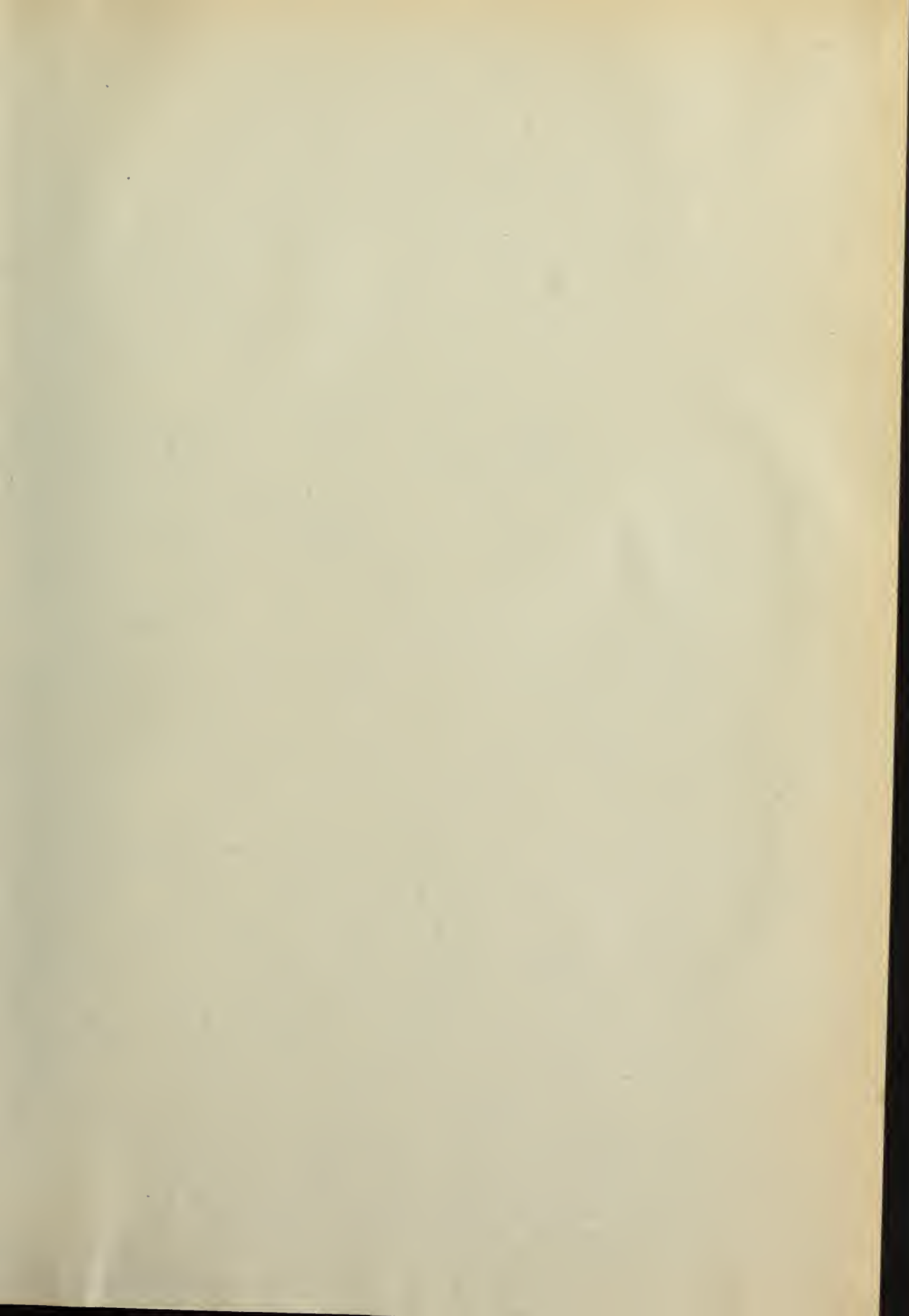
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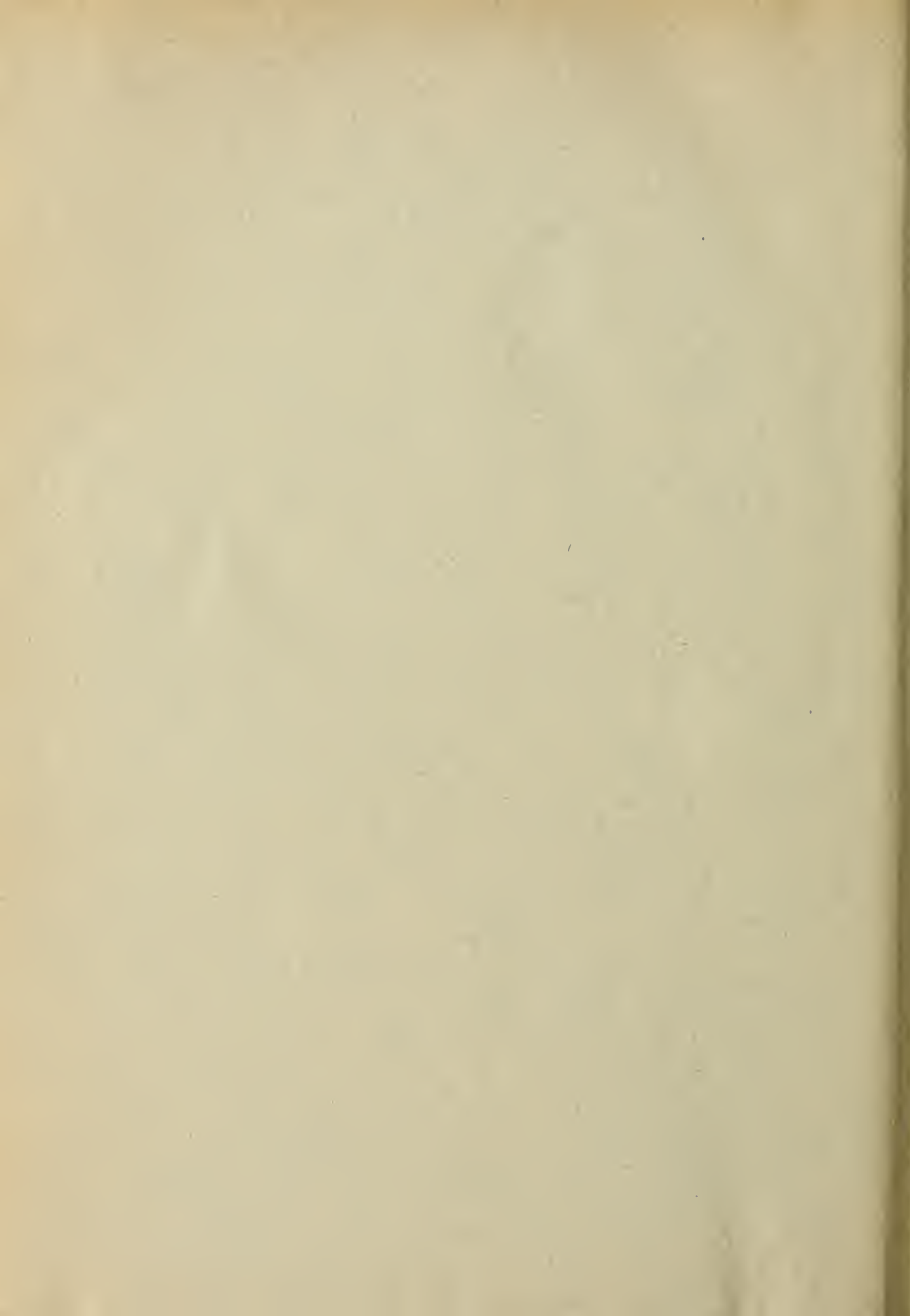














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